FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

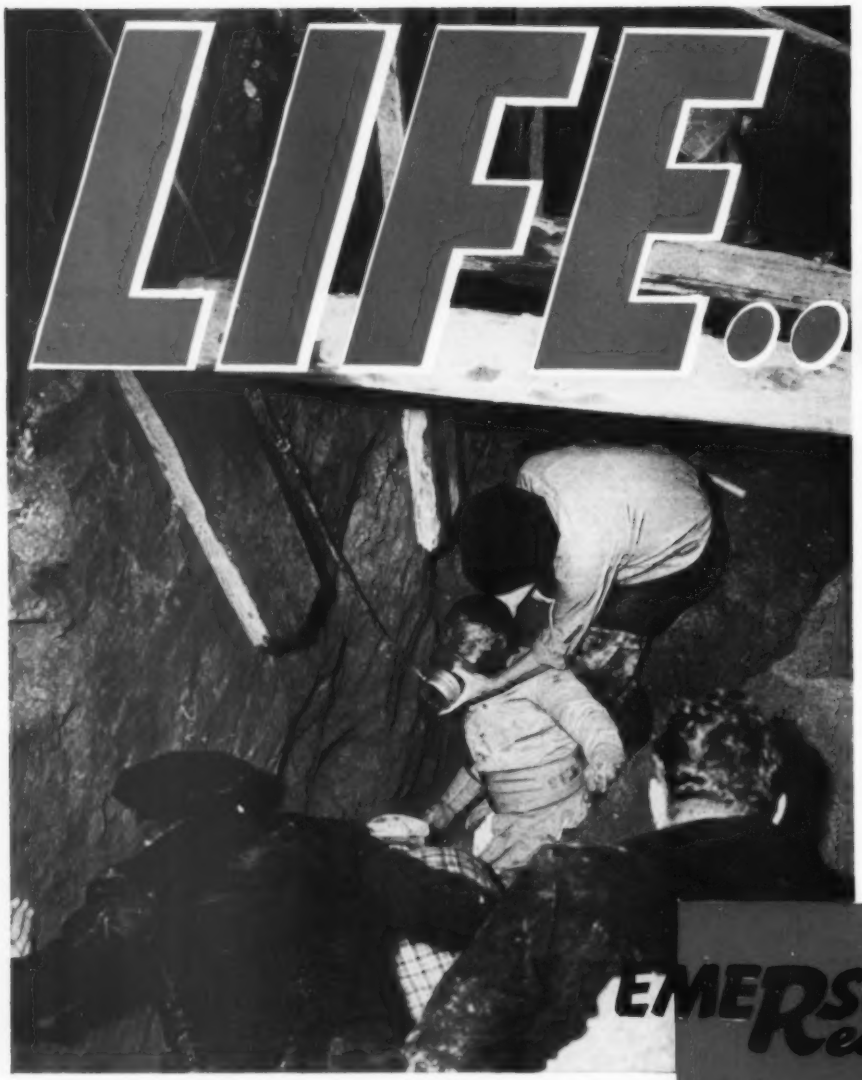
MARCH, 1952

OHIO STATE UNIVERSITY
MAR 21 1952
LIBRARY

A new use for parking meters. When it came to wetting down, following a half-million dollar fire in the business section of Mt. Carmel, Pa., recently, fire fighters used parking meter standards as supports for play pipes, as shown.

A CASE · SHEPPERD · MANN PUBLICATION

LIFE...LINE



to a victim
in a cave-in

. . . or in a
collapsed
building or
mine shaft

. . . trapped
by machinery
or under an
overturned
vehicle . . .

in a tank or
the hold of
a ship . . .

EMERSON Resuscitator

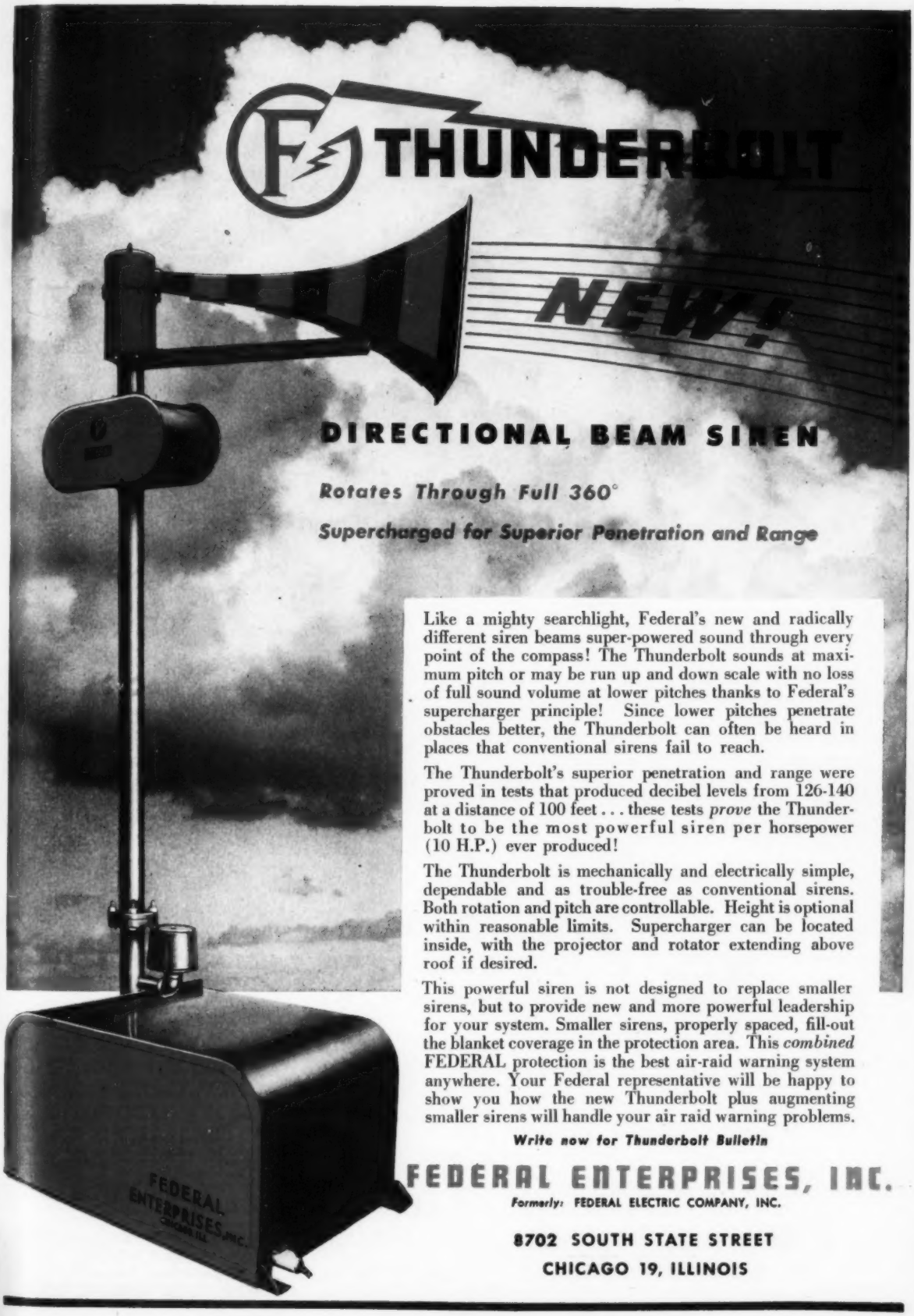
Photo of rescue recorded by the PHILADELPHIA INQUIRER.

From hundreds of feet away **EMERSON EXTENSION HOSES** can bring the breath of life to trapped victims, saving lives you could not reach with bulkier equipment. They connect instantly to standard Emerson models, and add new life-saving power to the equipment you already have. Ask your Emerson representative, or drop us a line at the factory.

Emersons are **SIMPLE** to operate and **SAFE** for adults, children, or infants. They are **ACCEPTED** by the American Medical Association (since 1942) for use **BY LAYMEN**. They **PROVIDE SUCTION**, alternating with the pressure phase, to give vital aid to the circulation.

J. H. EMERSON CO.

33 COTTAGE PARK AVENUE CAMBRIDGE 40, MASSACHUSETTS



Like a mighty searchlight, Federal's new and radically different siren beams super-powered sound through every point of the compass! The Thunderbolt sounds at maximum pitch or may be run up and down scale with no loss of full sound volume at lower pitches thanks to Federal's supercharger principle! Since lower pitches penetrate obstacles better, the Thunderbolt can often be heard in places that conventional sirens fail to reach.

The Thunderbolt's superior penetration and range were proved in tests that produced decibel levels from 126-140 at a distance of 100 feet . . . these tests *prove* the Thunderbolt to be the most powerful siren per horsepower (10 H.P.) ever produced!

The Thunderbolt is mechanically and electrically simple, dependable and as trouble-free as conventional sirens. Both rotation and pitch are controllable. Height is optional within reasonable limits. Supercharger can be located inside, with the projector and rotator extending above roof if desired.

This powerful siren is not designed to replace smaller sirens, but to provide new and more powerful leadership for your system. Smaller sirens, properly spaced, fill-out the blanket coverage in the protection area. This *combined* FEDERAL protection is the best air-raid warning system anywhere. Your Federal representative will be happy to show you how the new Thunderbolt plus augmenting smaller sirens will handle your air raid warning problems.

Write now for Thunderbolt Bulletin

FEDERAL ENTERPRISES, INC.

Formerly: FEDERAL ELECTRIC COMPANY, INC.

8702 SOUTH STATE STREET

CHICAGO 19, ILLINOIS

FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING, THE FIRE ENGINEER, FIRE PROTECTION *and* FIRE SERVICE

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FRED SHEPPERD
Editor

ROI B. WOOLLEY
Assistant Editor

"I READ UP EVERYTHING . ."

"When I want to discover something, I begin by reading up everything that has been done along that line in the past. I see what has been accomplished at great labor and expense in the past. I gather the data of many thousands of experiments as a starting point, and then I make many thousands more."

Thomas A. Edison.

● **The fire service, like the public, owes a debt of gratitude to Edison. His inventions are still reflected in the lights and batteries without which the modern motorised fire department would be hamstrung.**

● **In his insatiable quest for information, Edison was an avid reader of engineering and professional journals. In their pages he found both the records of achievements, and the forecasts of future accomplishments.**

● **The fire service has its Edisons who subscribe to, read, and refer to FIRE ENGINEERING year-after-year to know what's happening—and where, and to better fit them for their important tasks in safeguarding their nation against deadly, destructive fire.**

● **Who knows but what the germ of an outstanding idea for *tomorrow's* fire defense will be gleaned by one of those Edisons of the Fire Service from the editorial and advertising pages of this issue of FIRE ENGINEERING!**

The Publishers

FIRE ENGINEERING

The Journal of the Fire Profession since 1877; published on the fifteenth of each month by Case-Shepperd-Mann Publishing Corp., 24 West 40th St., New York 18, N. Y., also publishers of *Water Work Engineering, Wastes Engineering*, etc. ¶Subscription price: U. S., Latin America and Canada, $3.50 a year; Foreign, $4.50; Single copies, 40c. ¶Member of Audit Bureau of Circulations and Associated Business Publications, Inc. ¶Entered as second class matter April 15, 1929, at the Post Office at New York, N. Y., under Act of March 3, 1879. ¶Contents of this issue copyrighted, 1952, by Case-Shepperd-Mann Publishing Corp. ¶President and Advertising Director, KARL M. MANN; Vice-President and General Manager, I. HERBERT CASE; Secretary and Editorial Director, FRED SHEPPERD; Assistant Advertising Director, WALTER H. FREDRICKS; Eastern Representatives, WILLIAM J. GIBSON, ALFRED J. HOUGHTON; Circulation Manager, W. H. TOPHAM. CHICAGO OFFICES L. M. ROCHE and ROBERT D. CLEVENGER, 8 So. Dearborn St., Chicago 3, Ill.; SAN FRANCISCO: CHARLES H. WOOLLEY, 605 Market Street, San Francisco 5, Calif.; LOS ANGELES: AUGUST HAURIN, 6000 Miramonte Blvd., Los Angeles 1, Calif. ¶Printed in U.S.A.

A CASE-SHEPPERD-MANN PUBLICATION
"*Specialized* Leadership"

FABRIC 288 TWILL FIRE HOSE

★ ★ ★ ★ ★ ★ ★

A FIRST NEW REAL FIRE HOSE DEVELOPMENT

NO AMOUNT OF MONEY CAN BUY A BETTER HOSE

NO LESS AMOUNT CAN BUY AS GOOD

BALANCED DIAGONAL TWILL WOVEN GENUINE WAX AND PARA GUM IMPREGNATED CABLE CONSTRUCTED COTTON RUBBER LINED MUNICIPAL FIRE HOSE

MADE BY

THE ONLY EXCLUSIVE MANUFACTURER OF FIRE HOSE IN AMERICA

FABRIC FIRE HOSE CO.

1869 SANDY HOOK, CONN. 1952

2 FIRE FIGHTERS in 1

Two-fisted firepower with

JOHN BEAN HPV Fire Fighters

GET TWICE the fire protection from one truck, with the sensational John Bean HPV Fire Fighter that delivers approved full volume plus high-pressure fog. Two independent pumps, which can be operated separately or together, make the HPV truly two fire fighters in one.

You can hit fires fast and hard with John Bean true, high-pressure fog. Carrying 600 gallons of water, the HPV is always ready for instant action upon arrival at a fire. Where street mains, ponds, or other outside sources of water are available, you can add the slugging firepower of Underwriters'-approved volume streams.

Protect your community with John Bean Two-Fisted firepower. Write today and get the facts about the NEW John Bean Fire Fighters.

NEW Volume Pumps Deliver Underwriters'-approved Streams at 500 GPM, 600 GPM, or 750 GPM

- **Trouble-free Operation**
- **Foolproof Automatic Priming**
- **Long-life, Water-cooled Gear Case**
- **Simplified Pump Maintenance**

John Bean Division
Dept. 127
Lansing 4, Michigan

JOHN fmc BEAN

TWO-FISTED FIRE FIGHTERS

Can be mounted on most standard truck chassis

John Bean Division
426 Julian Street
San Jose, California

A PRODUCT OF FOOD MACHINERY AND CHEMICAL CORPORATION

B. F. Goodrich Fire King hose 50% stronger, 12% lighter, takes less space on standard truck bed

Stands higher pressures — tested to 600 pounds

It's a new chemically-produced fiber used as "filler cord" that makes B. F. Goodrich Fire King a stronger, lighter fire hose. These cords go around the hose, carry the load under pressure, and are not affected by water or mildew, mild acids or alkalies.

Lighter, more flexible cord means that Fire King hose is easier to handle, takes up less space. An additional 200 feet of Fire King can be racked on a standard truck bed because Fire King hose is 12 to 15% lighter than other fire hose.

Stands higher pressures — Actual service tests prove that Fire King fire hose is 50% stronger than standard hose which is tested to only 400 pounds pressure. Every length of Fire King fire hose is tested to 600 pounds pressure.

End protection—Fire King has the exclusive patented B. F. Goodrich end protection — an extra ply of hard woven cords extending 12" from the coupling. This adds 100% more strength to the coupling area. Not one single length of B. F. Goodrich fire hose with end protection has ever failed in the coupling area.

Fire King combines all the features of the highest grade B. F. Goodrich fire hose plus the recent improvement — Fire King reinforcing cord. The result is a premium double jacket fire hose 50% stronger, 12 to 15% lighter, yet only slightly higher in cost. It is available in both 1½" and 2½" sizes.

There's a B. F. Goodrich Fire Hose Distributor near you, ready to bring this and other BFG hose improvements to your department. Give him a call, or write *The B. F. Goodrich Company, Industrial & General Products Division, Akron, Ohio.*

Fire Hose
BY
B.F. Goodrich

"Built Like a Mack"

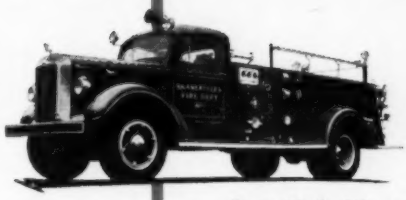
MACK *built in* MACK *factories*

EXPRESSLY DESIGNED FOR FIRE-FIGHTING SERVICE

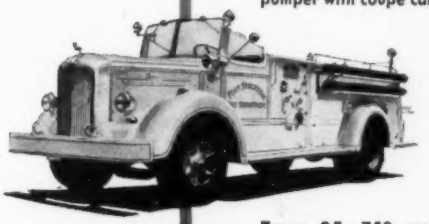
Mack Magnadyne Power—Powering Mack 500 and 600 gpm pumpers and city service trucks—lighter hose wagons and squad cars. Brilliant modern engines give big-apparatus performance and stamina for first time in lighter apparatus. 377 cubic inch displacement—147 brake horsepower. Double ignition, uniquely designed Mack combustion system.

Mack Thermodyne Power—Powering Mack 500, 750, 1000 and 1250 gpm pumpers—larger hose wagons and squad cars—aerial, city service and combination ladder units. 510 and 707 cubic inch displacement—161 and 225 brake horsepower. Overhead valves, double ignition—uniquely designed Mack combustion system.

MEANS FIRE FIGHTING POWER at its best!



Type 405A—500 gpm triple combination pumper with coupe cab.



Type 85—750 gpm triple combination pumper with semi-cab.

Type 95—1,000 gpm triple combination pumper with canopy cab.

Type 85—75-foot, 750 gpm quintuple combination aerial ladder truck with semi-cab. Also available in 65′ and 85′ aerial ladders.

For quick starts and for fast runs through heavy traffic, over rough back roads or hilly terrain, or for prolonged pumping operations at high pressure and full capacity—Mack gives you fire-fighting power at its best.

All Mack fire apparatus engines are built for fire-fighting service. Greatest reliability of operation and simplicity of servicing are inherent in their six-cylinder design. Full power at lower engine speeds is achieved through large piston displacement. Maximum power from today's fuels is assured by the uniquely designed Mack combustion system.

Over fifty years of research, manufacturing and engineering experience contribute to the superior performance and reliability of Mack engines. Quality control is more thorough because Mack builds more of its engine components than any other fire apparatus manufacturer. And every Mack engine is subjected to the most searching tests at every step of its manufacture—including long test run-ins in the industry's largest and most modern dynamometer testing rooms.

When planning your next purchase of fire apparatus, have your Mack representative give you *all* the reasons why you get the best in performance and reliability when you Modernize with Mack.

modernize with

Mack
FIRE APPARATUS

MACK MANUFACTURING CORPORATION
Fire Apparatus Division
Allentown, Pa.

Factory branches and distributors in all principal cities for service and parts. In Canada: Mack Trucks of Canada, Ltd.

TRIPLE COMBINATION PUMPERS—500 TO 1500 GPM . . . SQUAD AND HOSE CARS . . . AERIAL, CITY SERVICE AND COMBINATION LADDER TRUCKS

DUO Safety FIRE LADDERS

SERIES 700-A
All-Aluminum
CHANNEL RAIL

For pumper use . . . the famous Duo-Safety 700 Series features greater strength with the lighter weight of aluminum construction. Shorter in the banked position . . . provides maximum climbing space . . . heavily ribbed rungs of extruded tubing . . . non-shearing steel rivets . . . no sharp or jagged edges. Series includes 700-A (2-section), 725-A (3-section), 750-A (Wall Ladder) and 775-A (Roof Ladder). All models available in standard lengths.

...and a companion ladder in wood

SERIES 200

Popular solid side ladders now being used by hundreds of fire departments. Select Douglas Fir rails and rungs of second growth hickory. Equipped with highest quality fittings. Available in 200 (2-section), 225 (3-section), 250 (Wall Ladder), 275 (Roof Ladder). In all standard sizes and can be built to specifications.

DUO-SAFETY LADDER CORP.

809-11 NINTH ST., OSHKOSH, WISCONSIN

Those Who Know Insist On HANNAY HOSE REELS

New Dodge Fire Truck of the West End Fire Co., No. 2, Quakertown, Pa., made by Harwick Mfg. Co., West Point, Pa., and equipped with the new Hannay Hose Reels.

Check the Superior Advantages

HANNAY *ELECTRIC DRIVE* HOSE REELS

Water Resistant
Vapor Resistant
Explosion-Proof

- ★ Extra strong construction to withstand high pressures.
- ★ Explosion-proof, heavy duty motor protected against fog, foam, fumes and water.
- ★ Sealed push button control.
- ★ Safe rewind speed, always under control.
- ★ Quiet, positive sprocket and chain drive; no gears to shift, no clutch to engage.

The continuing and increasing approval of Hannay Hose Reels by leading manufacturers and major fire departments is sound evidence of their superiority. Progressive fire officials, of large municipal departments and volunteer companies alike, know that when the going is tough there's no time for mechanical upsets . . . and that HANNAY Hose Reels can always be depended upon to do *their* part of the job. Attention to details makes for perfection. Specifying HANNAY Hose Reels is a detail that warrants your fullest consideration.

Ask Your Supplier or Write for Full Details

....LOOK FOR THIS

HANNAY
REG. U.S. PAT. OFF.
HOSE REELS
CLIFFORD B. HANNAY & SON, INC.
WESTERLO, NEW YORK

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MANUFACTURERS OF MANUAL AND POWER OPERATED HOSE REELS FOR EVERY PURPOSE

for effective Civilian Defense fire protection...

the BARTON-AMERICAN FRONT-MOUNTED PUMP takes over

Check the conditions fire fighting equipment for Civilian Defense should be designed to meet. Then examine these characteristics of the Barton-American UA-50 front-mounted pump*. You'll find that you can't make a better choice!

AMERICAN-MARSH PUMPS

CANADIAN APPARATUS PLANT:
American-Marsh Pumps (Canada) Ltd.
Stratford, Ontario, Canada.

MAXIMUM TANK CAPACITY FOR INDEPENDENT WATER SUPPLY
With the UA-50 the entire truck bed area is available for a *really* big tank. Booster tanks carrying up to 2000 gallons can be used. Compare this figure with 200 and 300 gallon capacities of others. Front-mounted construction also allows closer approach to water source.

FAST DRAFT FROM POND OR STREAM
Refills booster tank at 600 GPM. — less than 2 minutes to fill a 1000 gallon tank. Handles dirty water without damage. These are mighty important points to consider. Water works are vital targets in bombing attacks. Broken mains leave ponds — but no pressure. That's where the UA-50 really fills the bill!

DELIVERS BOTH LARGE CAPACITY HOSE STREAMS AND BARTON HIGH PRESSURE SUPER-FOG
You're equipped to fight the kind of fire you find with a single piece of equipment. No change-over problem — use fog or straight stream, or both at once.

FULL EFFECTIVENESS "ON THE GO"
You can "fight your way in" by laying down fog screens ahead of the moving truck. Cool your way to the main fire, protect the equipment, or pass through a hot area in the street to a more vital spot ahead.

MOUNTS ON STANDARD TRUCK CHASSIS
Repairs for the truck are as near as your closest dealer or parts jobber. American-Marsh maintains high-speed parts and repair service for pumps.

* Note how each of these features solves fire protection problems in rural and outlying districts.

GET FULL DETAILS AND SPECIFICATIONS ON THE BARTON-AMERICAN UA-50, GEAR-DRIVEN, FRONT-MOUNTED FIRE PUMP. ASK FOR BULLETIN 8330.

AMERICAN-MARSH PUMPS, INC., BATTLE CREEK, MICHIGAN

Thousands of M·S·A Chemox® are Answering Alarms with Major Fire Fighting Units in every section of the Nation

Because the only valid test of fire fighting equipment is *use,* and the only proof of quality is *acceptance,* the unchallenged position won by the M.S.A. Chemox in the nation's major fire departments since its introduction 6 years ago provides convincing evidence of the dependability of the self-generating oxygen principle.

Fire fighters everywhere have found that the M.S.A. Chemox Apparatus *better* fills their needs for complete breathing protection and wearing freedom. They endorse too, the features of simplicity, economy, light weight (only 13½ lbs.), and ease of maintenance. For complete details, write for Bulletin No. B-14.

MSA
SAFETY EQUIPMENT HEADQUARTERS

MINE SAFETY APPLIANCES COMPANY
BRADDOCK, THOMAS & MEADE STREETS, PITTSBURGH 8, PA.
At Your Service: 66 Branch Offices in the United States
MINE SAFETY APPLIANCES CO. OF CANADA LIMITED
Toronto, Montreal, Calgary, Winnipeg, Vancouver, New Glasgow, N.S.
Representatives in Principal Cities in Mexico, Central and South America
Cable Address: "Minsaf" Pittsburgh

Call the M. S. A. man on your every safety problem . . . his job is to help you.

YOUR ASSURANCE OF DEPENDABLE PROTECTION IS THE REMARKABLE YEAR-AFTER-YEAR RECORD OF ADT

PERFORMANCE

Properties protected by ADT during 1951 experienced a remarkably high immunity from fire and burglary losses. The impressive figures given below are typical of the records established year after year. They furnish convincing proof of the exceptional value of ADT Central Station Electric Protection Services.

Performance of this type can only be obtained through continuous supervision, regular inspections and tests, and complete maintenance of protective signaling systems. Such specialized attention, as provided by ADT, is vitally important to assure effective operation when emergencies arise.

Write for illustrated booklet, "Protecting Life and Property," describing all ADT Protection Services.

1951

SPRINKLER SUPERVISORY AND WATERFLOW ALARM SERVICE

Supervisory alarms, indicating temporary impairment of sprinkler systems	183,330
Waterflow alarms, caused by fires or serious leaks	3,580
Manual fire alarms	138
Insurable values of properties protected	$9,552,857,000
Ratio of losses to insurable values protected	4/100th of 1%
Fire-loss immunity in 1951	$99\frac{96}{100}\%$
AVERAGE FIRE-LOSS IMMUNITY DURING THE PAST TEN YEARS	$99\frac{97}{100}\%$

WATCHMAN'S REPORTING AND MANUAL FIRE ALARM SERVICE

Investigations of failures of watchmen to signal Central Stations on schedule	214,449
Total number of signals recorded	334,615,176
Watchmen's patrol efficiency	99 94/100th %
Alarms from Manual Fire Alarm Boxes	1,393
Insurable values of properties protected	$15,177,188,000
Ratio of fire losses to insurable values protected	8/100ths of 1%
Fire-loss immunity in 1951	$99\frac{92}{100}\%$
AVERAGE FIRE-LOSS IMMUNITY DURING THE PAST TEN YEARS	$99\frac{96}{100}\%$

BURGLAR AND HOLDUP ALARM SERVICES

Attacks on ADT Protection	1,907
Entrances effected	1,046
Captures as result of burglar, holdup and other emergency alarms	680
Insurable values of properties protected	$2,881,400,000*
Ratio of losses to insurable values protected	1/100th of 1%
Burglary-loss immunity in 1951	$99\frac{99}{100}\%$
AVERAGE BURGLARY-LOSS IMMUNITY DURING THE PAST TEN YEARS	$99\frac{99}{100}\%$

*Not including the ADT-protected values in bank vaults, the U.S. Treasury, Federal Reserve Banks and branches, the U.S. Mints, and the U.S. Bullion Depositories at Fort Knox, Ky., and West Point, N. Y.

Controlled Companies of
AMERICAN DISTRICT TELEGRAPH COMPANY
155 Sixth Avenue • New York 13, N. Y.
Central Stations in Principal Cities

ADT

ALFCO FOAMITE AIRFOAM

The Foamite Airfoam-Generating Nozzle produces Foamite Airfoam by the scientific mixing of water, air and Foamite Airfoam solution. Light in weight, the nozzle can be moved about easily when fighting a fire.

The Foamite Airfoam it produces blankets fire with a thick, stable insulation which shuts off oxygen and smothers fire quickly and easily—and it *stays* smothered! It extinguishes fire in both ordinary free-burning materials (Class A fires) and combustible materials (Class B fires). It floats on the surface of burning liquids, quickly surrounds obstructions, and clings to solids. It prevents reflash.

Foamite Airfoam Liquid operates with fresh or salt water; with hot or cold water; will not ferment or mold; is not susceptible to decomposition from bacteria; is noncorrosive; available in 3% or 6% solution.

The Foamite Airfoam-Generating Nozzle is furnished in three capacities, model 300, 600 and 1200, producing at 100 psi operating pressure, approximately 300, 600 and 1200 gallons of Foamite Airfoam respectively. Write for literature.

Over 2nd Century of Leadership in FIRE PROTECTION

AMERICAN-LAFRANCE-FOAMITE Corporation
ELMIRA · NEW YORK · U.S.A.

ALFCO

In Cleveland

IT'S SEAGRAVE

The cities of America must have efficient, dependable, trouble-free fire protection. That's why, throughout the years, they have turned to Seagrave for just such protection. The service record of Seagrave Fire Apparatus in city after city is one of the most noteworthy in the industry. It is the proof that Seagrave Apparatus makes life and property more secure in both rural and metropolitan centers. That Seagrave gives more for the money in superior operation than any other fire apparatus made.

THE SEAGRAVE CORPORATION
COLUMBUS, OHIO

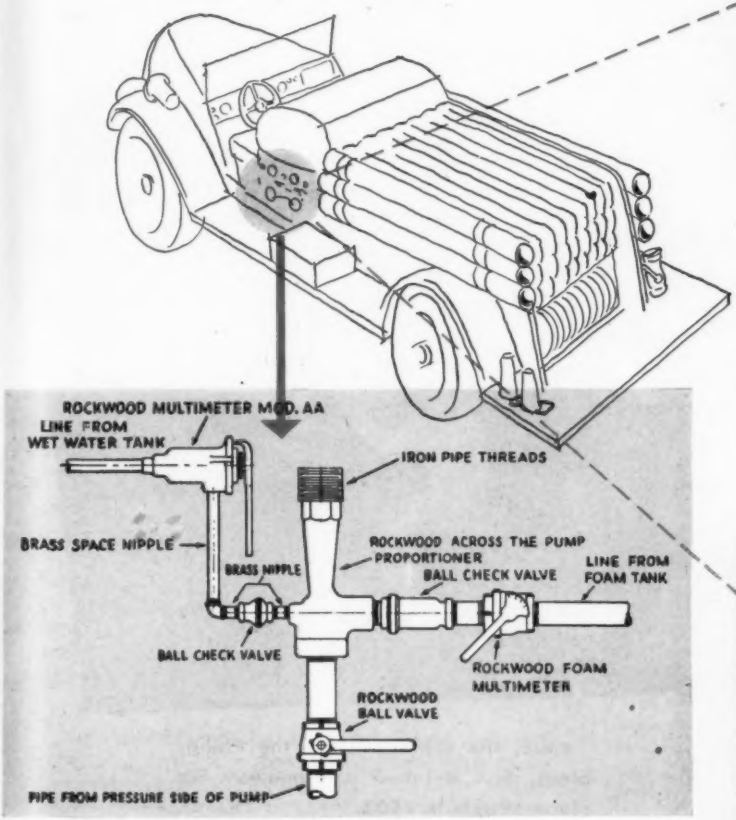
Bickle-Seagrave, Lt'd-Woodstock, Ont.

Seagrave

THE GREATEST NAME IN FIRE APPARATUS

Flaming Liquids Stop Short! Water Goes Farther!

. . . with Rockwood's action-proved fire fighting aids.



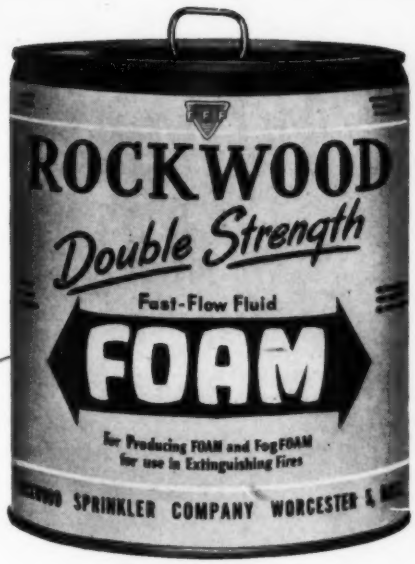
ACCURATE MIXING ASSURED. Automatically feeding FOAM or WET Liquids into hose lines, Rockwood's Model Dual "B" Around-the-Pump Proportioner is designed for use where pressure is maintained by a pump from either draft supply or booster tank. Multimeter settings admit proper amounts of wetting agent for varying nozzle discharges and solution strengths.

A proportioning system to meet YOUR needs.

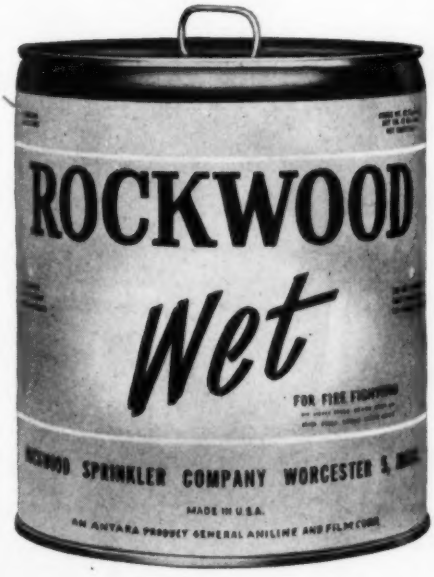
Different types of fires call for different proportioning systems for large-volume FOAM or WET discharge. Rockwood specializes in custom-engineered proportioning systems to meet particular needs, for all mobile equipment. Write for details.

GET THE FACTS on Rockwood's complete line of cost-cutting, efficiency-boosting products for modern fire fighting. Send for your copy of this big, illustrated catalog today.

ROCKWOOD SPRINKLER CO.
54 Harlow Street, Worcester 5, Mass.
PORTABLE FIRE PROTECTION DIVISION



TO PUT OUT FIRES IN FLAMMABLE LIQUIDS FASTER AND AT LOWER COST, use Rockwood's new Double Strength FOAM Liquid. Three parts of FOAM Liquid mixed with 97 parts of water form an excellent foam blanket that will quickly re-seal if broken. This foam blanket has proved its ability to extinguish large spill fires in gasoline with maximum speed and safety to firemen. Double Strength FOAM Liquid is more fluid, faster spreading and flows freely at sub-zero temperatures (—15°F.). Rockwood Regular FOAM Liquid is also available for use with Rockwood devices.



TO MAKE A LITTLE WATER GO A LONG WAY, use Rockwood WET, a wetting agent prepared especially for fire fighting. WET speeds the spread and penetration of water into deep seated fires in such ordinary combustibles as wood, paper, cloth, etc. Thoroughly tested in action, a mixture of 1 part WET to 99 parts of water will help reduce the time, manpower and quantity of water needed to put out the stubbornest fires. WET retains its remarkable penetrating quality even at fire temperatures.

Manila AGAIN PREFERS GAMEWELL

Manila, the capital city of the Philippines, first installed a Gamewell fire alarm system in 1903.

This system, from time to time extended with Gamewell equipment, was completely destroyed during the recent war.

After more than 40 years experience, Manila again purchased a complete fire alarm system consisting of a 38 circuit central station, 14 fire station alarm and recording equipments, and 600 fire alarm boxes. The new system has recently been placed in operation.

TRADE MARK GAMEWELL REG. U.S. PAT. OFF.

THE GAMEWELL COMPANY

NEWTON UPPER FALLS 64, MASSACHUSETTS

In Canada: Northern Electric Co., Ltd., Belleville, Ontario

FIRE ENGINEERING

MARCH, 1952 VOL. 105, NO. 3

With the Editor

Clear Away the Fog

A joint committee of the International Association of Fire Chiefs and the National Fire Protection Association is engaged in an enterprise that should have the approval of all forward-thinking fire chiefs.

The group, which is headed by Robert Byrus, Director of Fire Service Extension, University of Maryland, Chairman, and includes representatives of fire apparatus manufacturers, seeks to evaluate water fog, and appliances and devices for applying it, and to establish not only their relative value in the field of fire control, but to develop standards that can be applied to the purchase, as well as the use of, such equipment.

Water fog, although by no means new to the fire service, received its greatest impetus as a fire control medium during World War II, thanks in no small measure to men like Captain Harold Burke, U. S. N., and Commander Lloyd Layman, U. S. C. G., and others. We like to believe, also, that this Journal played its part by helping promulgate the facts about water fog to a then somewhat skeptical and doubting fire service.

Notwithstanding the fact that water fog has caught on with the fire service, and has made tremendous advances in scientific fire control, many questions concerning its use and application still remain to be answered. Perhaps the most important of these has been to determine the "measurement" of water fog in terms of discharge, working pressures, nozzle reactions, and so on. Heretofore, only the manufacturers' word for details of discharge and other operating factors has been available, and even these data have been insufficient in some respects. Such data as were available could hardly be used to establish the performance characteristics of the different types and makes of nozzles, such as impinging and periphery types, straight and adjustable and the combination nozzles.

Most important of all perhaps has been the lack of basic knowledge concerning the effectiveness of water fog as an extinguishing agent from engineering and scientific standpoints. That its performance potentials, as well as its limitations as related to different methods of application on different types of fires, are still not sufficiently known is admitted by those who have probed into the subject.

The tests of water fog application held at Miami by another committee, as well as the experimental work of certain fire departments and laboratories, are helping to answer many of the practical questions of application and, we hope, will eventually enable us to estimate the fire extinguishing power of both low velocity and high velocity fog under certain conditions of application, on certain types of fires. But excellent as these tests may prove, they will still not fill the need for basic evaluation of the nozzles for applying this highly essential extinguishing agent. That is where this new joint committee comes into the picture.

Following a preliminary meeting of the group in February at the University of Maryland, the procedure for reviewing the currently available fog apparatus and equipment was studied, and the course to be followed in conducting the actual comparative tests was tentatively determined. The tentative dates set for the first tests are July 8-11. The place, Elmira, N. Y., the same location where the National Board and I. A. F. C. conducted the original fog nozzle experiments described in the Board's booklet, "Characteristics of Water Spray Nozzles."

This enterprise will be no small undertaking. The sub-committee already has tabulated the products of twenty different manufacturers for consideration.

All-told the total number of tests will run into the hundreds. After the trials will come the collating, analysis and interpreting of the acquired evidence, before it will be ready for dissemination to an eagerly waiting fire service. All this is going to take some time—but it is worth it!

Fred Shepperd

Some Observations on the Modern Fire Prevention Bureau

Prominent Fire Chiefs Speak Out on the Who, What, When, Where, Why and How of Fire Prevention

A SYMPOSIUM

RUDYARD KIPLING once wrote a couplet which read: "I have six honest serving men; they taught me all I knew; Their names are What and Why, and When and How and Where and Who."

That covers the questions about fire prevention bureaus that have been coming to this Journal in ever-increasing numbers. Who heads them up and staffs them? What are their functions? When can they be most valuable to a fire department? How are they administered? Where does their work begin and end?

Although the fire prevention bureau is nothing new to the fire service, these inquiries indicate that there is some uncertainty and confusion over the place of the fire prevention agency in the modern municipal fire department and its functions. Lately, perhaps inspired by the financial scrutiny being given many large departments, the question has been advanced, should the fire department maintain and operate such a bureau or division? If so, who should staff it: regular uniformed firemen, or civilians? And who should head it up and administer it, the head of the fire department, or some other municipal official?

These and many related questions inspired the editors of this Journal to seek the answers asking a representative cross section of municipal fire chiefs for their opinions and comments.

These chiefs were most cooperative as always. Although the questions we asked were limited in numbers and covered only the size and extent of their fire prevention bureaus, the number of personnel, and whether uniformed or civilian, the respondents were so generous with their information and observations that we have thought it advisable to present for our readers a summary of this information in the form of a symposium.

From among the reports of the respondents, we have selected a number which we believe best provide the information desired by our enquiring readers. We present these, with little or no editing, with our hopes that they will be helpful to the fire service, and with our appreciation to those who have so generously cooperated.

Seattle Emphasizes Fire Prevention Equally With Fire Protection

Fire Chief William Fitzgerald of Seattle, Wash., stresses the fact that his fire department, "contrary to the accepted methods of fire department administration, places the same emphasis upon fire prevention as upon fire fighting." The same personnel is used for both functions with the addition of a small corps of professional fire prevention inspectors.

The use of personnel is made possible the chief states, through two-way radio —incidentally a number of correspondents advanced the same observation. "Formerly," said Chief Fitzgerald, "fire department units were chained to the end of wired services in fire stations. With radio, their operations are flexible; they can operate in the field and receive alarms via radio. They are just as available for alarms while inspecting as though on the end of wired fire alarm service in the fire station." And he continues: "The usual fire department plan of fire prevention is to build a corps of inspectors in a fire prevention division. Each of these inspectors is given a territory of the city which he is presumed to inspect. To thoroughly cover the entire city at regular intervals would require an inspection force that is too large and costly to maintain. Salary increases and reduced working hours, along with the high cost of government, have absorbed practically all the available tax money to the point where there are no more tax dollars in the fire protection barrel. Meantime a large force of firemen are in fire stations waiting for an alarm and doing practically nothing in the way of fire prevention inspection. It is true that departments do send individual inspectors out on foot, but this program accomplishes very little in the way of actually covering a city."

There is also an administrative feature in this program, he points out. Where you have a fire prevention division that presumably handles all inspections, you have two fire departments — one fire fighting, one fire prevention. This results in specialization deluxe, in that neither group is sufficiently interested in the other one's problems. However, when you send fire fighting units into the field on fire prevention work as such, with battalion and company officers responsible for results, and follow this with a suitable system of reports, it represents about the ultimate that can be achieved in a fire prevention sense. Seattle fire loss records, Chief Fitzgerald adds, attest to the efficiency of the system, for in the past ten years the city's fire losses have averaged 60.9 per cent below the national per capita fire losses for the same period.

The following is the Seattle plan of fire prevention operation:

(a) Each battalion comprises a geographical area of the city.

(b) Each company district comprises

Fire officer inspects automatic control valves controlling waterfog system at rubber plant. The waterfog installation blankets entire butadiene storage and processing area at this plant.

a geographical area of a battalion district.

(c) Each company inspects all of the buildings in its company inspection district except residences.

(d) Battalion and company officers are responsible for inspections in their districts and for re-inspections, through to removal of any fire hazards or unlawful conditions of storage that are uncovered.

(e) The fire prevention program is geared to seasonal fires and fire trends.

(f) Target fire inspections are regularly conducted. An example would be public schools. In the week preceding the opening of the schools, every school in the city is fire-prevention inspected.

(g) In addition to the fire prevention inspections, a comprehensive plan of inspecting all new oil burner installations is carried on by the battalion and company officers in their districts.

(h) All of these inspections, except oil burners are carried on by company units in charge of a company officer.

(i) Our fire prevention division comprises a fire marshal and six fire prevention inspectors. This group maintains the technical phases of fire prevention inspection and processes all reports from the field that cannot be handled by company inspectors.

(j) A system of records is installed that completely traces the report originating in the field through to final completion of the requirements of fire safety. A report cannot be lost once it originates in the field.

(k) In addition to the fire prevention inspections, we maintain a system of pre-fire inspections, using a specially designed form. This inspection is for fire fighting information in order that the companies may have comprehensive knowledge of how to attack fires in specific risks. This plan is carried out by radio equipped companies in the field under supervision of battalion and company officers.

(l) In 1932 the department had 23 firemen working in the fire prevention division.

(m) In 1951 there are 7 firemen working in the Fire Prevention Division.

(n) Under 1951 standards, growth of city and multiplied fire-causing hazards, 65 firemen would be required in Fire Prevention Division to provide comparable services.

(o) Present cost of operating the Fire Prevention Division, salaries only, is $28,380.

(p) Under present salary schedules, to provide 65 firemen would cost, salaries only, $238,660, to provide fire prevention services comparable to those of today.

There is food for thought in Chief Fitzgerald's scholarly report, particularly that section concerning the economy of radio, used as a fire prevention and inspection tool.

Cincinnati, Long Fire Prevention Conscious, Has Good Staff

Cincinnati, Ohio, is another city where the fire department maintains a fire prevention division. It is headed by a battalion chief with title of superintendent, who answers directly to the chief of department (Barney Houston).

The present superintendent of the Bureau is Joseph S. Devine. His office adjoins that of the chief in the City Building and all of the fire department statistical data pertaining to fires is recorded by this office.

In addition to the other record keeping, the Fire Prevention Bureau members keep all the inspection records, make many regular inspections, handle the public relations work, court cases, operate the arson squad, investigate fires, work on committees with other city departments, and do other work, pertinent to the operation of the Bureau. Thus it will be seen that in Cincinnati, the functions of the Bureau are very broad and cover almost everything but fire extinguishment.

An interesting point is that each day a member of every fire company in the department is assigned to inspect residential as well as commercial occupancies. This is in addition to the inspection work by the Fire Prevention Bureau. The superintendent of the Bureau is in complete charge of the entire inspection system.

In addition to the Superintendent, the Bureau has an assistant superintendent, six supervising inspectors with rank of captain, one investigator with rank of lieutenant, and two female civilian clerks.

San Francisco Combines Prevention and Investigation

In San Francisco, the detail of fire prevention is the primary responsibility of the Division of Fire Prevention and Investigation which, according to Fire Chief Edward P. Walsh, consists of two parts: the Bureau of Fire Prevention and the Bureau of Fire Investigation.

The officer in command of the "D. of F. P. and I.," has the title of Chief of the "D. of F. P. and I." This position is promotional from the rank of captain by civil service examination. The Bureau of Fire Prevention is supervised by a captain and the Bureau of Fire Investigation by a lieutenant.

According to the city charter, the Bureau of Fire Prevention is under the jurisdiction of the Fire Commission, The Commission is required to detail from the uniformed force an officer to have charge of the bureau, and such other personnel as it may deem necessary. The number of personnel who may be so detailed is limited by ordinance to not more than 2 per cent of the membership of the department.

The Rules and Regulations of the San Francisco Fire Department make the Chief of the Division of Fire Prevention and Investigation responsible to the chief of department for the proper administration of his division. His program of operation, together with specific rules and regulations must be submitted to the chief of department for approval who, in turn, is required to submit it to the Commission.

Chief Walsh states that all personnel of both bureaus are members of the uniformed force. A chief is in charge of the Division of Fire Prevention and Investigation.

The Bureau of Fire Prevention includes two captains, three lieutenants and twenty-seven inspectors, while the Bureau of Fire Investigation includes one lieutenant and seven inspectors.

In San Francisco, as in Cincinnati and other municipalities, in addition to the fire prevention activities of the bureau of fire prevention, inspections of buildings are also carried out by the fire department division and district

One of the commonest fire hazards in the home is defective wiring.

chiefs and by the company officers and members. Their activities not only supplement the work of the bureau, Chief Walsh explains, but also give the fire fighting personnel valuable knowledge concerning buildings in their response area, which they use to good advantage in fire fighting operations. No mention was made of any residential inspections, but it might be added here that very few municipal fire departments, whether operating fire prevention bureaus or not, attempt to make home inspections. The primary reason is that the home, by law, is considered inviolate, as a "man's castle" and therefore not subject to inspections by fire department or other municipal forces. It should be mentioned, however, that a number of cities and smaller communities, do conduct residential inspections more or less by invitation.

Fire Marshal, With Rank of Assistant Chief, Heads Dallas Bureau

The Dallas Fire Department, Chief C. N. Penn reports, has an active Bureau of Fire Prevention which is headed by a Fire Marshal, who ranks as an Assistant Chief. The Bureau is directly under the command of the Chief of Department.

For many years the Dallas Fire Department has been a leader in fire prevention and its activities have been instrumental in the city's winning numerous fire safety awards and honors.

The makeup of the Bureau of Fire Prevention, under the Fire Marshal is as follows:

Chief inspector, a civil service appointment, immediately under the fire marshal.

Two arson investigators, civil service appointments, ranking as captains, but having no jurisdiction over the Inspection Division.

Fire prevention instructor, a civil service appointment, ranking equal to a captain, with no jurisdiction over the inspectors. This officer, incidentally, is charged with fire prevention education of all kinds.

Two lieutenants of inspectors, civil service appointments, with one of these in direct supervision of inspectors and

one in charge of office personnel and records.

Twenty-one inspectors, civil service appointments, three of whom do special inspection work, answer complaints, etc., with the remainder doing routine inspection of high value commercial and industrial occupancies.

One steno-secretary and three senior stenographers, all civil service appointments, and all civilian personnel.

Chief Penn points out that other than the four girls in the office, all bureau personnel are in the uniformed division; however, due to the nature of their work, the investigators work in plain clothes.

Chief Engineer Heads New Orleans Fire Prevention Division

Under date of May 29, 1947, the Commission Council of the City of New Orleans created a Fire Prevention Division in the Fire Department to be operated under the supervision of the Chief Engineer (at this time Chief Howard L. Dey).

The ordinance provides that the chief engineer of the New Orleans Fire Department appoint the director of the division, subject to the provisions of the Civil Service Law. During the tenure, the director cannot be a member of the uniformed force of the fire department.

The ordinance also provides that the chief may detail members of the uniformed personnel of the department as inspectors and authorizes the chief engineer to select technical inspectors under Civil Service provisions.

Presently the Fire Prevention Division is operated under the supervision of the chief engineer by a director, three civilian inspectors, two uniformed fire department inspectors, a stenographer and a typist-clerk.

According to the "Digest of the Fire Prevention Ordinance No. 16879CCS," published by the Fire Prevention Division of the New Orleans Fire Department, the division "was created to provide the necessary machinery to study causations and apply prevention and controls over conditions conducive to fires within the city limits under its jurisdiction as designated by law."

Minneapolis Bureau Under Command of Chief of the Fire Department

Another city which has created an effective bureau of fire prevention which has broad scope and application, but is under the command of and operated by the fire department, is Minneapolis.

The Fire Prevention Bureau of that city by departmental regulations is under the direct supervision of the Chief of the Fire Department, (Chief R. O. Malmquist). The regulations give him "full management and control of all matters pertaining to the . . . Bureau and all subordinate officers, inspectors and clerks assigned or detailed to the Bureau." The regulations also point out, however, that the clerks assigned to the bureau shall be indirectly under the supervision of the department secretary.

The chief of the bureau shall be responsible for enforcement of fire prevention laws and ordinances relative to the protection of lives and property; he shall supervise investigations as to the cause of fires "and alarms" and investigate suspicious or incendiary fires and assist in the prosecution of persons charged with arson. He shall also assist in the prosecution of persons charged with violations of fire prevention laws and ordinances.

The regulations also give the head of the bureau other powers. They say "he shall supervise fire prevention inspections of buildings and other premises, including dwellings, upon request of owners or occupants, thereof." And he is charged with making "monthly reports of fires, losses and inspections to the Chief of Department." Further, he shall recommend elimination of special fire dangers; conduct fire prevention campaigns and circulate fire prevention literature; give lectures; arrange for school instruction and study fire prevention codes and state laws.

The Minneapolis regulations go so far as to state that he (the head of the bureau) shall maintain in the office of the bureau records of alarms, of inspection investigations, complaints, special and peculiar hazards and "such other information as shall be required." Also, he shall supervise conduct of fire drills and other activities in schools and places of public assembly, make investigations of fire and report to the state fire marshal's office. He shall prepare and submit to the chief of department an annual report of all activities of the fire prevention bureau. (Not many cities leave the preparation of the annual statistical report of the entire fire department to the chief of the Bureau of Fire Prevention).

But that isn't all; the bureau head is authorized to set up minor rules, with the approval of the chief of department, for the government of the Fire Prevention Bureau. He shall also "make such other records and reports and perform such other duties as the Chief of Department may require, and as are set forth in the Ordinance establishing a Fire Prevention Bureau . . ."

Thus it appears that the structure for the Minneapolis Fire Prevention Bureau is well established. The regulations further define the organization and procedure of the bureau. Summed up, according to Chief Malmquist, the present personnel of the bureau includes the following: 1 Chief of Bureau, 1 Assistant to Chief, 1 Fire investigator, 4 Arson investigators, 8 Regular inspectors, 3 Regular inspectors (detailed to Junior Fire Department and Boy Scout activities), 2 Fire Service stenographers.

The assistant to the chief of the bureau is detailed from the rank of captain. All other details are made from the rank of fire-fighter, in accordance with City Council regulations. Chief Malmquist believes the position of fire investigator should be comparable to the rank of captain and at present the department is attempting to have this change made.

Portland Bureau Chief Ranks as Assistant Fire Chief

Fire Chief Edward Grenfell of the Portland, Ore., Fire Department, reports the Portland Fire Prevention Bureau is a branch or division of the regular fire department and under his jurisdiction as Chief of Department. The Fire Marshal, which rank is equivalent to that of assistant chief in his city, is in charge of the Bureau.

Personnel of the bureau includes one senior captain as investigator; four captains, one assigned to the city Building Division as plan examiner (this idea of detailing one officer to this particular task is interesting and not often encountered); and three in direct charge of inspectors; one photographer (another not too common detail); seventeen inspectors, one assigned to schools, one as office desk man and fifteen as district inspectors, and two stenographers.

The three captains in charge of the district inspectors each have five inspectors under their command and each of these captains is also a specialist in one particular type of inspection. One captain specializes in hospitals, convalescent, and detention homes; one in public assemblies and building condemna-

Open panel box doors alongside combustible materials create a real fire hazard.

tions; one in flammable liquids, acids and gases. These specialties, Chief Grenfell believes, require a more detailed study of technical data than the average inspector can be expected to undertake, and accordingly, the district inspectors call on the proper captain to assist them when special problems are encountered.

The present system has been in effect in Portland for some four years, according to Chief Grenfell, and seems to be quite satisfactory.

Baltimore Has an Extensive Fire Prevention Code

One of the larger cities of the Eastern part of the nation, Baltimore, adopted an extensive fire prevention code in 1946, known as "Ordinance No. 438." It is one of the "instruments" relied upon by the Fire Prevention Bureau of Baltimore, to reduce fire hazards.

The bureau is under control of the fire department, (Chief Michael H. Lotz), and is supervised by a deputy chief, assisted by a battalion chief in actual charge of the bureau.

There are eight captains assigned to the Baltimore bureau who reinspect conditions reported as violations in respective districts, and who in turn make reports as to violations for which notices are forwarded through the Police department and followed up as to abatement within specified times.

Baltimore follows much the same practice as other large eastern cities in having company commanders make inspections in their respective districts of all buildings, except private dwellings, at various periods. Each report is followed up by the captains assigned to the bureau for such action as may be deemed advisable in all cases. Company commanders are required to make periodic inspections of their various assignments at least three times a year.

Comprehensive reports on forms provided as to each inspection are forwarded to headquarters with duplicate copies, and after inspection by the fire prevention bureau the duplicate copy is returned to the commanding officer with notation as to correction or abatement of condition complained of. A complete building record card is kept at headquarters and a duplicate on file in company quarters for reference.

Milwaukee Bureau Uses Photography in Its Operations

The Bureau of Fire Prevention and Protection, as the fire prevention division is known in the Milwaukee Fire Department, consists of 24 uniformed and one civilian members. The bureau is under the command of a deputy chief who is responsible for its operation. He is assisted by a fire captain and a fire lieutenant who supervise the work of the various other members of the Bureau. These officers make any special inspections on investigations which might be required.

Two men with the rank of fire lieutenant check hotels, places of public assembly, and other locations where people gather in numbers to afford fullest protection against fire and resultant panic. Four men with the rank of fire prevention officer (a special rank below that of fire lieutenant) regularly check rooming houses, convalescent homes and the like. Sixteen men with rank of fire fighter are assigned to regular inspection work in all other buildings in the city. All buildings, except private dwellings (interior) in the areas designed as "fire limits" are inspected four times a year, and all buildings, except private dwellings, in the areas designated as "out of fire limits" are inspected twice a year. The city is divided into inspection districts and the men are assigned to the various districts to insure a complete inspection each period, which is quarterly.

One civilian member is assigned to the office who records all inspections made, conditions which are violations, and this member sends out the necessary notifications directing corrections of conditions, and refers conditions, not under the jurisdiction of the fire department to the proper parties for attention.

Members of the Bureau are detailed to be present at any function in the city where exceptionally large numbers of people may gather to aid in keeping passageways and aisles clear and help in avoiding panic should trouble arise. Also, during the Christmas shopping season men are detailed to the larger stores to keep aisles clear and see to the removal of waste paper, etc., and remind persons that smoking is prohibited. According to Fire Chief Edward E. Wischer, whose report we quote, this helps reduce to a minimum the potential hazard always present at this season, in places of this kind.

In Milwaukee, conditions found in violation of the law are always rechecked by another member, usually a man of higher rank, after a period of time allowed for correction to see that the hazard has been removed or corrected or whether further action is necessary. If the offender refuses to comply with the correction order, then legal action is taken to force compliance. Chief Wischer reports that fortunately this is not often necessary.

The Milwaukee Bureau is equipped with necessary cameras and other photographic equipment, and certain personnel is trained in the efficient handling of it. When a fire occurs which is of suspicious origin, pictures are taken of anything that might aid in the prosecution of the offender. Also, if extremely hazardous conditions are found in any building, pictures are taken and placed on file so that in the event corrections are not readily made and prosecution is necessary, proof of their existence is available.

The entire Bureau of Fire Prevention and Protection is under the control of the deputy chief so assigned who, in turn, is responsible only to the chief or the assistant chief of the fire department. This deputy chief is the chief's representative on the Industrial Commission of Wisconsin and he is usually the department representative on other committees or boards which formulate policies or establish regulations pertaining to the safety and protection of the public.

Philadelphia Has Extensive Fire Prevention Bureau

An act of the state legislature, as amended in the year 1915, gave the Mayor or Director of the Department of Public Safety the power of appointing personnel of the Fire Marshal's Office and Fire Prevention Bureau. In 1949, the City Council enacted an ordinance placing the Fire Marshal's Office under

(*Continued on page 221*)

Fire prevention inspections in industrial and business properties include check-up of extinguishers.

Fire Service Ladders and Their Use—Part XXII

Ladder Evolutions: Six-Man Operations, Pole Ladders

By ROI B. WOOLLEY

Editor's Note: This Chapter is a continuation of Part XXI, published in the February issue, which dealt with the removal of pole ladders from apparatus; the shoulder carry by four and six men, and covered the steps preparatory to the actual raising of such ladders.

The following text describes the completion of the evolutions of raising, pivoting and setting-in extension pole ladders by the six-man crew. It will be noted that the ladder shown is the trussed wood type (40-ft. length) with detachable poles. The evolutions described would be practically the same were longer ladders of the same category, having the single set of poles, used.

It should be pointed out that the evolutions illustrated cover the procedures followed for raising this type ladder with the fly section under the main section, or toward the building, notwithstanding the fact that this practice, as analyzed in Part XII is not generally accepted. Where possible, the author has attempted to outline the difference between the methods pictured herein (raising ladder with fly *toward* the building) and the steps to be taken for raising the ladder with the fly *away* from the building.

Barring special raises, this Chapter concludes the series of installments on ladder evolutions begun in the August, 1951, issue of *Fire Engineering* (Part XV, which covered the removal of ladders from apparatus, their handling and climbing). Subsequent Chapters discussed the following: Part XVI (September): One-man raise, short extension ladder; Part XVII (October): Two-man, straight and extension ladders; Part XVIII (November): Two-man, flat-raise, wall-ladder; Part XIX (December): Four-man, long extension ladders; Part XX (January, 1952): Three-man, long extension ladders; and Part XXI (February): Four and six-men operations. Acknowledgement is made of the cooperation of the Committee on Firemen's Training, National Fire Protection Association; Richard E. Vernor, Chairman Fire Department Instructors Conference and of the services of Photographer H. F. Rothery, District of Columbia Fire Department.

AT the conclusion of the last Chapter (Part XXI), we had shown the poles or tormentors of the two-section, wood extension ladder being passed over by the two beam men to the two pole men, with the two other men of the six man crew standing by, ready to heel, or butt, the ladder upon the command to raise.

Fig. 1 shows the six-man crew in position to raise the ladder. The pole men stand on the *outside* of the poles, bodies facing each other, feet apart, their eyes on the beam men who, it will be noted, grasp the rung at a point just below the junction of the poles (See detail in Fig. 3). The heel-men take position as shown in Fig. 2, one foot of each man on the heel of the ladder, the other on the bottom rung. The arms are crossed, two hands gripping the second rung; the other hands grasping the beams.

Again, it should be pointed out that the position of the ladder shown in these and subsequent illustrations is for facilitating the raise evolution with the fly section *toward* the building. Should the evolution call for the raise with the fly to be *away* from the building, or outside the main section, the ladder would be reversed, i.e., the fly section would be *under* instead of *over* the main section, in its position flat on the ground. The location and position of the men, however, would be the same. Figures 4 and 5 show the position of crew, and ladder, ready for the raise, with fly toward the building. If, after the ladder has been removed from the apparatus and been placed on the ground, as shown in Fig. 1, it is generally considered necessary to turn the ladder over before attempting to raise the ladder with the fly away from the building. Some instructors have contended

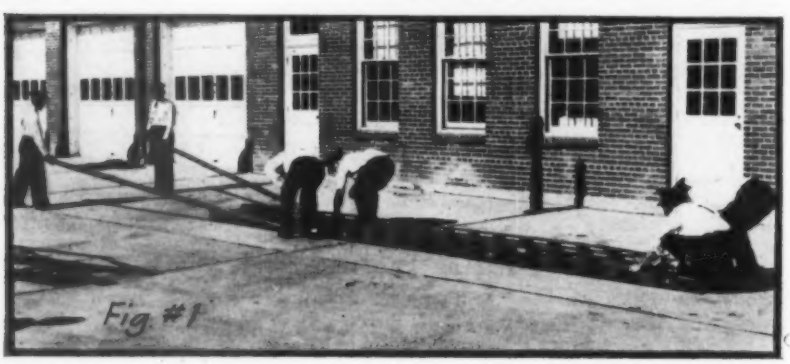


Fig. #1

Fig. #2

that the fly can be brought either away from, or toward the building during the pivoting operation, which must be done regardless of how the fly is to be raised, when the ladder is erected parallel to the building.

Assuming that the ladder is to be raised with fly toward the building, Fig. 6 shows how the operation appears from another angle. The pole men grip the foot of the pole with one hand. If the poles have metal spurs, as most of them have, the spur is usually allowed to protrude between the fingers of the hand. Naturally the grip should be such as not to run a chance of injuring the hand. As is shown in Figs. 7 and 8, it is this arm that exerts the most lift pressure.

Again referring to the beam men, it will be noted (Fig. 3) that they assume a crouched position, the better to utilize the leverage of the legs and the free arm, which is braced on the knee. The hands grasp the rung below the pole fastening, with palms to the rear.

At the command, the beam men lift up on the ladder, pivoting under it (Fig. 7) as it reaches shoulder height. At this level the pole men, who stoop as far as possible to bring leverage of their poles to the aid of the beam men, exert their pressure.

Fig. 8 shows the operation continuing, with the beam men using the rails, not the rungs of the ladder, for pushing, the pole men straightening up from their original crouch, and the two heel men leaning as far backward as possible to provide a fulcrum.

The illustrations show about the proper distance between the pole men. Conditions such as terrain, and other obstacles may not permit this ideal separation; it may be necessary at some stage for the two men to be nearer together, or further apart. Any change in this relationship may increase the difficulty of the raising operation by placing undue strain and responsibility on the other crew members, particularly the beam men. Any twist in the ladder, because the pole men have become "off-

Fig #3

balance," may throw off the heel men. It is therefore important that the pole men be well trained in their work and be physically capable of performing this evolution.

In training, it is often helpful if the instructor will go along with the two pole men, keeping between them as they attempt to push up on the poles, and keeping them at his two arms' distance apart (about 6 to 8 ft.).

With the ladder upright, as shown in Fig. 9, the butt men, who have come erect as the ladder reached the perpendicular, face the two beam men on the other side of the foot of the ladder. In order to most safely "anchor" the ladder, an accepted method is shown in this illustration. Here the heel and beam men place one foot on the lower rung, grasping the beam as shown. *The rungs are not held.* The upper hand grips are located about a rung above the shoulders; the lower holds about a rung below. The task of watching the shifting of the tip of the ladder is left to the two pole men whose task it is to control all movement by their arms, which are flexed. They should not "lean" on their poles but be in a position to move in any direction.

The next operation consists in pivoting or turning the ladder in order to bring it horizontal with the building, for climbing after it is set in. Also, as in the case of Fig. 10, to bring the fly toward the building.

In this operation, also, the pole men have the important job of stabilizing the ladder. In Fig. 10 it will be seen Pole Man No. 6 has changed his position to the other side of his pole in order to face the direction he will travel in bringing his pole to right angles of the ladder in its new position (see also Fig. 11).

After shifting to the inside of his pole, he moves out and around, as the ladder is ready to be pivoted by the balance of the crew, until he is at right angles with his fellow pole man. He then exerts the slight pressure necessary to tilt the tip of the ladder to bring its weight onto the inside beam (one toward the building). Both pole men maintain a close watch on the tip of the ladder. Elbows are flexed by the pole men so the ladder can be shifted without moving the feet.

The two inside men on the ladder itself keep their feet on the rung at the inside of the beam. The heel men pivot or swing the ladder when, on command, the pole man has placed pressure to tilt the ladder onto the inside beam. With the ladder thus tilted, the pole men hold their positions to prevent the ladder getting away from the crew. This may not be an easy operation, particularly with the longer, heavier wood extension pole ladders, and where obstacles make it necessary to operate under handicaps.

With the ladder vertical and parallel to the face of the building, one of the beam men operates the halyard. It is important that hands grasp the ladder on the beams, and *not* the rungs; and that feet be kept off rungs. The ladder is heeled with feet against the beams (Fig. 11). Many firemen have been injured by having the fly ladder drop on their hands, while attempting to brace it by holding the rungs.

With the fly raised *away* from the building, the halyard is operated by one of the heel men, who is located under the ladder, or toward the building. As has been said before, one of the reasons advanced for raising the extension ladder with the fly toward the building is to bring the halyard man on the outside of the ladder where, it is claimed, he can better watch the fly being raised, and gauge its height and stopping point. As the illustration (Fig. 11) shows, the best persons to judge this detail are the pole or tormenter men who, located as they are, some distance out and away from the ladder itself, have the raising operation in better perspective than men at the butt who must of necessity look almost vertically upward. The point has also been made that raising the fly inside, or toward the building, with the halyard man pulling as he is, the leverage is *away* from the building, whereas raising the fly outside, with halyard man under the ladder, the pull is *toward* the building—the safest procedure in the event the top of the ladder should get out of hand.

Years back, some instructors preferred to shift both pole or tormenter men simultaneously until they are at right angles to the ladder and the building. This is not considered as safe or effective an evolution as shifting the single poleman because it creates a moment during the evolution at which there is no effective leverage on the ladder, with the result that it may get off balance and out of control of the crew.

Still another practice taught was to place one of the pole men on the inside of his pole, i.e., between the two poles with his back to his fellow pole man. This had a tendency to bring his pole and leverage away from that of his mate. It also makes it difficult for him to keep clear of his partner should a sudden shift of the ladder become necessary. This practice is not recommended.

With fly raised, the ladder is then eased against the building, the heel and beam men bracing as shown in Fig. 12, while the weight of the ladder is taken by the heel men, and partially by one pole man. The pole men guide each other in setting the tip into the building. The halyard is then secured (tied-in), the two poles are placed in proper position to best brace the ladder, and the ladder is ready for climbing.

A word about setting the poles; they should be located in relation to the ladder rails as shown in Figs. 13-14, and allowed to rest on the ground without forcing, i.e., having to bear any particular weight of the ladder. Poles are designed primarily to prevent horizontal shifting of the ladder and not to be used to bear the weight of the ladders and load.

Configuration of the ground or other obstacles may make it difficult to set in poles so that one does not bear undue weight, that is, more than the other. It should be remembered, also, that climbing motion may "walk" poles or cause them to shift their base, with the result that when the weight of climbers is removed from the ladder one tormenter may be carrying more of the load than the other. This is an argument for smooth, rhythmic climbing.

It is always advisable to secure the top of any ladder, whether it is located over a cornice or in a window or other opening. Fig. 13 shows the raised ladder being secured at the roof (dogged with a rope tool)

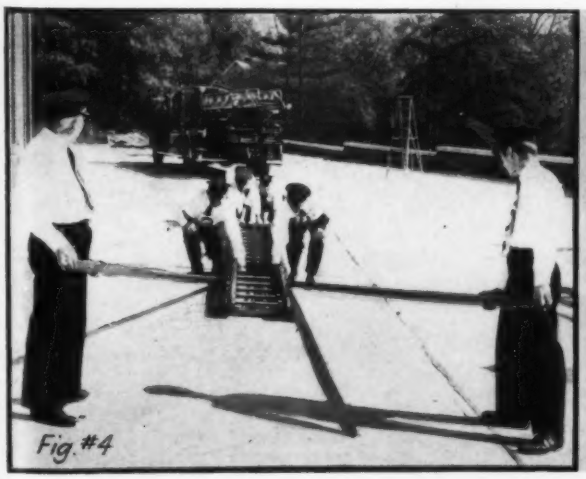


Fig. #4

Fig. #5

Fig. #6
Fig. #7
Fig. #8
Fig. #9
Fig. #10
Fig. #11
Fig. #12
Fig. #13

Fig. #14

with the upper fireman having a safety leg lock on the ladder. The halyard is already tied-in. Fig. 14 shows another view of this ladder in position for service.

The position assumed by a six-man crew in raising the pole ladder at right angles to the building is illustrated in Fig. 15. This is a straightaway raise, the butt being placed at the outset (if conditions permit) at as near the proper distance from the structure as is called for by the height of the ladder.

All moves in this procedure are the same as for the parallel raise, previously described.

Where this same type pole ladder is to be raised by five men, one man instead of two is placed at the butt. The positions and moves are otherwise the same as described for the six-man operations.

Where eight men are available for pole ladder operations the extra two men are located on the ladder, directly behind the other two beam men. In this evolution the shorter beam men should be placed nearest the heel of the ladder.

Puppets Teach Fire Prevention

Radio Station WOWO, Fort Wayne, Ind., which placed first in the nation's recent annual fire prevention contest, has this year been promoting fire safety in the schools through the "Do-Funny Players."

The "Do-Funny Players" are puppets, who stage stunts to dramatize the high points of fire prevention to "children" from 7 to 70.

The show runs about 20 minutes. The puppets and settings are in miniature but the fire dangers are never minimized.

A colorful, circus-type folder, picturing the puppets and containing a fire prevention check-list on its center spread, is given each child who sees the show. The child is asked to hang up the folder and have his parents read it. The show and folder are also used to promote fire prevention among the school principals.

Station WOWO has defrayed the entire cost of the promotion, using the $500 awarded it as prize winner in the nation's contest.

TWO LIVES LOST NEEDLESSLY IN CINCINNATI HOTEL FIRE

Prompt and Adequate Fire Force Response Saves Many—Holds Fire to Minimum

A Staff Report*

TWO Air Force privates lost their lives needlessly, according to Fire Chief Barney Houston, head of the Cincinnati Fire Department, in a fire January 13 last, in the Sinton Hotel, that city.

The fire, of undetermined origin, but believed due to a lighted cigarette tossed carelessly into the contents of a linen room in the service department section between the second and third floors of the 528-room, nine-story hotel, spread upward from the heavily stocked linen room through a laundry chute extending from that level to the ninth floor, giving off considerable smoke.

Although the fire was confined by fire fighters to the second-and-a-half and third floors and the chute, where heat and smoke were intense, there was considerable panic among the 324 guests registered in the hotel at the time. The tenants mostly had retired shortly after midnight on Sunday morning when the fire was discovered. Many, particularly those on the top two floors, opening their doors when the alarm was sounded, encountered the choking smoke in the halls. The two Air Force members attempted to escape by sliding down an improvised "rope" made of bedding and draperies. The knot between the first and second sheets slipped and they dropped almost seven floors to a landing. Firemen said the servicemen apparently could not find an exit immediately because of the smoke in the corridor and instead of remaining in their room, from which they would have been rescued, attempted their hazardous escape.

To substantiate this, the guests in the next room actually were rescued by Captain Earl Repetto of the Fire Department Salvage Corps.

The first notification of the fire was received by the Fire Tower (fire alarm office) at 12:24 A.M. This was a telephoned alarm, which informed Dispatcher Keating and Operator Kelley there was a fire in the Sinton Hotel at 4th and Vine Streets. Box 1165, located at 4th and Vine, was struck.

The first alarm assignment for that box was Engines 1, 3, 45 and 6; Hose Tenders 1, 3, 45; Rescue Squad 52; Water Tower 21; Aerial Ladders 1 and 2 (100 ft.); Salvage Corps 2 and Marshal Wm. Telcher.

Marshal Telcher, after a hurried size-up, ordered the second alarm (12:32 A.M.), which brought Engines 2, 13 and 17; Ladder 4 (85 ft. aerial); Marshal Kummer, 2nd District; Fire Chief Barney Houston; Ass't Chiefs L. J. Kuhn and Edward Avey; Chief H. C. Williams and Ass't Chief John Frank of the Salvage Corps, which had been out of service on the initial alarm.

After further noting the life hazard and the way the heavy smoke was knocking out his men, Marshal Telcher ordered the fifth alarm at 12:44 A.M., jumping the other two alarms. This set in motion Engines 42, 19, 21, 12, 23, 32, 37, 18, 38, 39, 5 and 34; Ladders 13 (85 ft.) and 15 (100 ft.). This made a total of 19 engines, 3 hose tenders, 5 aerial ladders, the task unit (rescue), ambulance, 2 salvage corps wagons, the chief in charge, and his staff, the arson squad and 5 police ambulances.

First alarm companies, which worked their lines inside the hotel while laddermen hastened to aid removal of tenants, took terrific punishment. The value of a large response on the initial alarm, even though a telephone call, aided materially to gain mastery over the flames, and to facilitate rescue, it is reported.

Firemen, aided by hotel employes, had little difficulty in evacuating guests below the two upper floors. It was on the latter levels that panic among guests was most apparent. Among the more spectacular escapes was that of a married couple who slid down a television antenna lead-in from their seventh floor rooms to a roof between the second and third floors at the hotel's rear. They received severe friction burns and cuts but were otherwise unhurt. Several top floor

(*Continued on page* 186)

*Acknowledgement is made of the assistance of correspondent Pat Holz, Cincinnati Fire Department, for data used in this report.

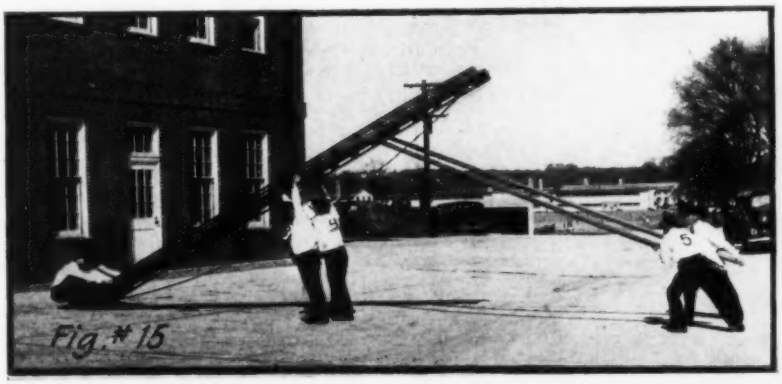


Fig. #15

Industrial Fire Fighting

Part 2 of a Series

By W. E. ROSSNAGEL
Fire Protection Engineer

III—The Chemistry of Fire (Continued)

But now let us look into how a fire starts (and consequently how to prevent one from starting). In addition to the three elements required for a fire to progress, it is necessary to have two more conditions in order to start a fire (Fig. 1). First, there must be a source of ignition, such as an open flame (a match flame has a temperature of about 1,800° F.), a spark, or some material heated to above the Ignition Temperature of the vapor from the fuel involved. This is about 500° F. for gasoline, and as low as 212° for carbon-bisulphide, far below the temperature of about 950° F. required for metal to become even "dull red hot."

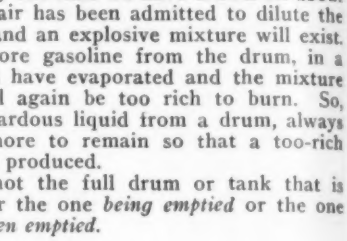
Second, the vapor must be mixed with just the right amount of air. For example, a mixture of less than 1.3% of gasoline vapor in air is too lean to burn. Above 6% it is too rich to burn. But between 1.3% and 6%—look out!!

This will explain why we so frequently read of "empty" gasoline tanks exploding. Keep in mind that a half gallon of gasoline in an empty 8,000-gallon railroad tank car will, when it all evaporates, make an exposive mixture in the tank. As another example, less than one tablespoonful of gasoline in a standard 55-gallon steel drum will create an explosive atmosphere. Yes, when we think we have drained all the liquid from a drum, and even purged the drum, there may still be a very small amount of gasoline remaining in the seams and under the rust scale. This will later evaporate, and it may make a potential bomb of the drum.

If we have a 55-gallon drum containing 50 gallons of "winter" grade gasoline at a temperature of say 40° F., the evaporation of the liquid will continue until the vapor-air ratio above the liquid reaches a maximum of about 37%, which is far too rich to burn or explode. Should we begin to draw gasoline from the drum, for every gallon of liquid that flows out, a gallon of air must enter to replace it. By the time we have drawn off about 25 gallons, sufficient air has been admitted to dilute the vapor to below 6%, and an explosive mixture will exist.

If we drain no more gasoline from the drum, in a short time more will have evaporated and the mixture above the liquid will again be too rich to burn. So, when draining a hazardous liquid from a drum, always allow a cupful or more to remain so that a too-rich mixture will again be produced.

Remember—it is not the full drum or tank that is hazardous, but rather the one *being emptied* or the one which has *recently been emptied.*



If you have to weld or "burn" a drum or small tank which had contained a flammable liquid, drain it thoroughly, wash it out, then fill it as much as practicable with water, and discharge the contents of a CO_2 extinguisher into the tank above the water. This should purge the flammable vapors from the tank and make it safe to work on. A pint of carbon tetrachloride, when all is evaporated, should be sufficient to render safe an empty 55-gallon drum.

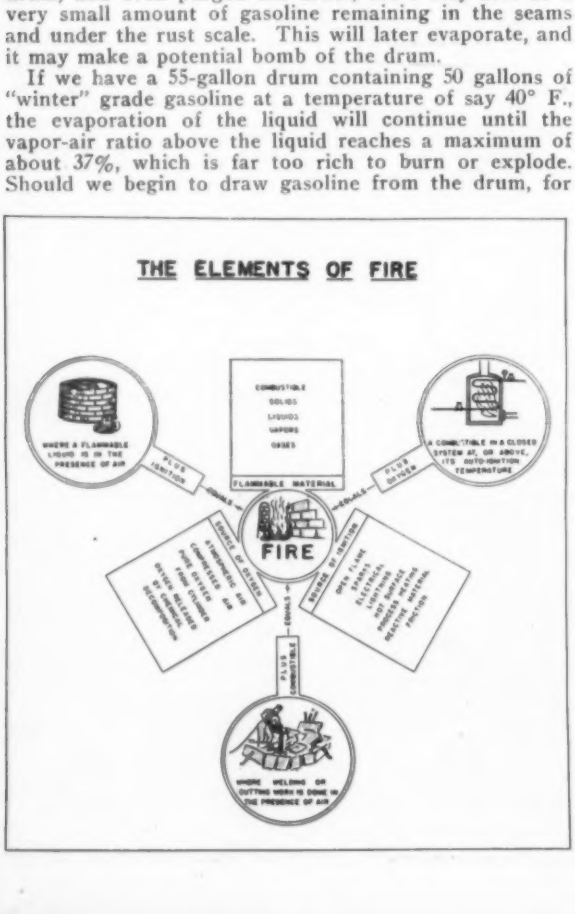
Medium-flash-point oils such as kerosene cannot be ignited by a match if in a can or tank, because the heat is rapidly transferred to the large bulk of liquid. But if spilled in a thin film on a wood floor or on clothing, some of the kerosene can be quickly raised to the flash point and ignited by the heat of a match. And the heat produced by this small flame will raise additional fuel to above its flash point, and the fire will thus progress. Liquids, when sprayed, behave as vapors and can explode with great force. So don't use an insecticide gun or a paint spray near an open flame. They will act like flame throwers.

Now for some "don'ts." *Never extinguish a gas fire,* unless by extinguishing it you can gain access to the valve to shut off the flow. If the flames are extinguished but the gas continues to escape, especially indoors, there will be the possibility of an explosion.

An acetylene outfit was in use in a small room in the basement of a reinforced concrete building under construction at a war plant. Almost directly above the cylinders was a hole in the main floor through which a pipe was to be run, and up on a platform several levels above was a man using another torch. Sparks from his torch dropped through the hole in the floor, and one apparently landed on the acetylene hose close to the regulator. No one saw this happen, but the hose caught fire. Very soon the hose burned through, allowing the acetylene gas to escape and burn like a crude torch.

The flames were too close to the regulator for anyone to shut it off or to close the cylinder valve. Had the fire been discovered at once, it would have been in order to extinguish the flames, then immediately close the valve to stop the flow of gas. But the fire was not discovered soon enough.

On the top of most acetylene cylinders are four fusible plugs. They look like small pipe plugs, but are drilled out and filled with a soft metal that melts at about 212°.



They take the place of a safety valve, and relieve the internal pressure if the cylinder is exposed to a fire. Well, in this instance, the heat from the burning acetylene melted the four fusible plugs, so they had five fires instead of one.

The men called upon to extinguish the fire were not trained in the proper technique for handling gas fires. They instinctively extinguished the fire, then started to go away, leaving the cylinder in its position with acetylene escaping from the five openings. Keep in mind that almost any amount of acetylene (2½ to 80%, see Table) mixed with air is combustible, and an explosive mixture would have been created in only a few minutes. And the welder working on the platform above the main floor was still dropping an occasional spark through the hole in the floor.

In other words, conditions were all set for a violent explosion. However, at this time the Fire Protection Engineer arrived, and he had the cylinder removed from the building before anything happened.

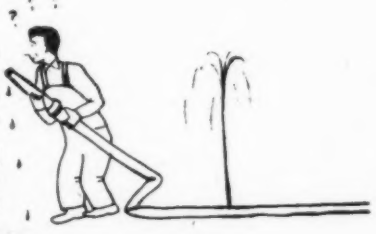
In fires of this kind, unless the valve can be shut, it is better to allow the escaping gas to continue to burn, wetting down the cylinder with water to cool it and reduce the pressure and the rate of gas escape. Use a fog nozzle to absorb the heat of the flames and to wet and cool the adjacent walls, columns, roof, machinery, etc., but let the fire burn itself out.

Likewise, under normal conditions *don't extinguish a vent fire*. So long as the flame is vigorous and is *yellow* there is a little, if any, danger of it being drawn in through the vent pipe and causing an explosion within the tank. On the other hand, if the flame is extinguished but the vapor continues to escape from the vent, it may drift with the gentle movement of air and come into contact with an open flame. Then boom!!

Several years ago a disastrous explosion occurred in an Eastern gas plant. A large tank (about 400,000 gallons) contained a mixture of tar (a by-product of the manufacture of illuminating gas) and some "light oil" (another by-product). The tar at normal temperature is too thick or viscous to flow readily, or to let the light-oil vapor escape. Therefore, steam coils were placed in the tank to heat the tar so that it could be pumped. The "light-oil" has properties somewhat similar to gasoline; that is, it has a relatively low flash point and is very volatile (will evaporate rapidly).

The operator was negligent and allowed the steam to raise the temperature of the tar sufficiently to release the light-oil vapor. This vapor filled the top of the tank and then began to discharge from the 6" vent. It was a still night, with no wind blowing. The vapor from the vent was carried by a very gentle air movement (not enough to call it a breeze) to a two-story brick building close by, on the second floor of which were a wash room, locker room and a chemical laboratory. And like in all such laboratories, on the work bench was a Bunsen burner with an open flame.

Now let's analyze the situation, referring to Fig. 1.



(1) There was a fuel (light-oil).

(2) There was no deficiency of air, or oxygen.

(3) The light-oil had been heated to above its flash point.

(4) There was an ignition source (open flame).

(5) Only the proper vapor-air mixture was needed to cause ignition.

Eventually enough vapor drifted in through the open windows to produce the proper mixture, and a violent explosion occurred. The roof of the building was blown off and the building was filled with flames, ten men being burned to death. The flames were carried by the vapor to the tank vent, at which place the vapor then burned like a giant torch. The radiant heat from the building fire heated the black wall of the tank, and the tar inside of it, and light-oil vapor was released faster and faster, and the torch at the vent burned bigger and "better."

The Fire Department was called, and in time they had the fire in the buildings under control, but not out. Then the Fire Chief realized that the tank was burning at the vent, and he was afraid of an explosion. So he sent two men up on top of the adjacent tank, and with a large high velocity fog nozzle they extinguished the vent fire.

Now let's stop and think what condition then existed. The set-up was exactly the same as before the first explosion, except that the tank had been heated by the flames in addition to the steam coils, and the vapor was coming out of the vent many times faster than before. In other words, they were all set for another and more disastrous explosion. Fortunately, however, the gentle breeze changed in direction and the vapors did not become ignited.

Most combustible vapors with which we are concerned are much heavier than air (see Table, last column) and will flow like a liquid to the lowest place unless strong air currents interrupt such flow. Places to look for concentrations of explosive vapors are cellars, pits, excavations, manholes, sewers, subways and the like.

Gasoline vapor has been known to travel down a slight grade for several hundred feet on a *hot, humid* day with almost *no breeze* blowing. This kind of weather is ideal for vapor explosions, so be on the alert at such times.

If gasoline or other low-flash-point liquid is accidentally spilled on the floor indoors, quickly cover the pool of iquid with foam or dry chemical from an extinguisher in order to reduce the rate of evaporation. Open all doors and windows, and use a portable fan or an air hose to keep a strong draft of air at the spillage area to carry away the vapor as fast as it is released. And, try to extinguish all possible sources of ignition.

A story is told of a housewife who desired to do some dry cleaning by the use of gasoline (a very bad practice). She realized that gasoline is hazardous if used indoors, but thought it was safe outside to prevent ignition by the pilot light on the gas range in the kitchen, she set a dishpan on a table on the rear porch, poured in a gallon of gasoline, and began to swish her clothes around in it. It was the ideal day for an explosion (*hot, humid, no wind*) and the vapor drifted from the pan and clothes onto the table, then onto the porch floor, then onto the ground, then down the slight grade to the neighbor's yard where it came into contact with a bonfire. The flame flashed back through the vapor to the dishpan, ignited the gasoline and badly burned the woman. Yes, gasoline vapor has been known to travel under ideal conditions for long distance. So—be extremely careful on *hot, humid, calm days.*

If that incident is not impressive enough, another can be mentioned. It was in Ardmore, Oklahoma, in the Santa Fe railroad yards, on September 25, 1915. It was late in the afternoon of a very *hot, humid, calm* day (the same atmospheric conditions mentioned above as ideal for an explosion).

A tank car of gasoline was standing on a siding. The rays of the sun, shining on the black tank, heated the gasoline, and it gave off vapor in sufficient quantity to raise its pressure to 25 lbs. per sq. in., and the safety valve opened and released some of the vapor. The railroad men smelled this gasoline vapor and became alarmed, as they should have. But not knowing what to do in such a case, they called upon a local oil company for help. Two men were sent to the scene, but apparently these men didn't know any more about handling gasoline than did the railroad men.

What would you do in such a case? Of course, you would use a fire hose to wet down and cool the tank, and all would be well. But these men tried to do it the hard way. They were afraid that the tank would burst due to the internal pressure caused by the vapor. This

was an unnecessary fear, for the safety valve was already open and the pressure could not be raised further. Also, the maximum pressure caused by a gasoline vapor explosion is about 100 lbs. per sq. in., which is far below the bursting pressure of the tank. And it has been reported that, in the entire history of American railroading, there is no record of a tank car having exploded due to internal pressure or ignition. So their fears were unfounded.

Anyway, the men went up on top of the car and removed the dome cover, leaving a 14" diameter opening through which the vapor escaped freely. Keep in mind, as mentioned above, that this was a *hot, humid, calm* day. The escaping vapor drifted from the car, onto the tracks, down grade through the railroad yard to the first grade crossing, then taking the path of least resistance, the vapor traveled down the street into town.

No one knows what gave the spark. Perhaps it was a dwarf switch signal with an oil lamp, located 300 feet away. An explosion followed, not in the car but in the cloud of vapor drifting just above the ground. Forty-one persons were killed, 220 were hospitalized, and 458 in all were injured. Every building within 400 feet in that direction, including the railroad station, was destroyed, and brick building walls were demolished 1,200 feet away. This should impress us with the hazard of explosive vapors when they are not controlled.

A collision of a tank truck on plant property or in a public street presents a very difficult situation, particularly if a considerable quantity of gasoline is spilled, but not ignited. What to do is dependent largely upon local conditions, and no definite procedure can be worked up in advance. If a strong wind is blowing, extinguish all ignition sources in the path of the drifting vapor.

If there is no wind blowing, extinguish all ignition sources, and cover the spilled gasoline with foam or dry chemical. If the vapor is allowed to escape, it may drift into cellars, sewers, electric manholes, street excavations or into subways; and the consequence may be disastrous.

If the gasoline has been ignited, of course use the high velocity fog nozzle to make rescues if possible, but do not try to extinguish the flames. When gasoline is burning you can plan your actions, but when unburned gasoline is on the loose, you don't know where or at what moment an explosion is going to occur. Some firemen wash *burning* gasoline into the sewer. This should not do any great harm except possibly to spoil the lining of the sewer; but don't under any condition wash *unburned* gasoline into the sewer. It is better to let the gasoline burn itself out, meanwhile using the fog nozzle to absorb the heat of the flames to wet down the nearby buildings and prevent their ignition. Foam applied to large plate glass show windows should insulate them from the heat and help to prevent them from cracking.

IV—Extinguishers

There are three classes of fires, namely:

Class "A" fires—Those in combustible SOLIDS (wood, paper, rubbish, etc.)

Class "B" fires—Those in flammable LIQUIDS, (oil, gasoline, etc.)

Class "C" fires—Those in live ELECTRICAL apparatus (motors, transformers, etc.)

For Class "A" fires, cooling is most effective. For Class "B" fires, smothering and (on high-flash-point liquids) cooling are recommended. For Class "C" fires, a non-conductive extinguishing agent *must* be used, but otherwise they are treated as Class "A" fires when in insulation, and as Class "B" fires when in transil oil.

The extinguisher data in subsequent pages indicate the type of hand extinguisher most suitable for the several types of fires. Foam takes longer than CO_2 or Dry Chemical to extinguish a fire, but it will be definitely "out" and cannot be reignited by contact of the vapor with flames or heated metal. It also can be applied at a much greater distance from the fire.

Chapter IV on fire extinguishers will be continued in the April issue.

National Bureau Tests Bulb-Type Extinguishers

Bulb-type carbon-tetrachloride fire extinguishers tested by the National Bureau of Standards have been shown to provide decidedly inadequate fire protection. As hand extinguishers, they proved much less effective than the one-quart carbon-tetrachloride pump-gun hand extinguisher; and their use for automatic protection of the enclosed space used in the tests was disclosed as almost completely ineffective even when they were installed in double the number recommended by the manufacturers. In response to numerous inquiries concerning bulb-type extinguishers, the NBS has published the results of extensive tests of these devices in *Fire Tests of Bulb-Type Carbon-Tetrachloride Fire Extinguishers* by O. J. Hodge.

The NBS investigated seven different models of bulb-type extinguishers using carbon tetrachloride, of which six were designed both for hand and for automatic operation and the seventh for automatic operation only. Separate results from tests of the devices as hand extinguishers and as automatic extinguishers are presented in tabulated form. The report includes diagrams both of the general type of extinguishers tested and of the test set-ups used.

As hand extinguishers, the bulb-type devices were generally found to be impractical principally because of the manner in which the extinguishing liquid was applied. Tests demonstrated the inadequacy of the bulb-type devices for automatic extinguishment of fire in all trials except three in which the fire was in a pan favorably located directly beneath the extinguisher.

Copies of this eight-page pamphlet (National Bureau of Standards Miscellaneous Publication 197) may be ordered from the Government Printing Office, Washington 25, D. C., at ten cents a copy. Foreign remittances must be in U. S. exchange and should include an additional one-third the publication price to cover mailing costs.

Leicester Promotes Better Maintenance

The Leicester Fire Department, Leicester, Eng., has from experience found the fire-fighting equipment in many premises throughout the city to be maintained in poor condition. In many instances, says Chief Officer E. McKinnell, equipment installed over 20 years ago has received no attention whatever, with the result that when fires occur the apparatus does not operate satisfactorily, if indeed it functions at all.

In an effort to correct this drawback, and following its policy to do everything possible to reduce the damage by fire to the absolute minimum, the Fire Department has issued a fire prevention booklet, which it has distributed to factories, all departments of the Corporation, garages, places of public entertainment, etc.

The booklet, entitled "Where's the Fire—My Place?", measures 4 x 6½ inches, is 16 pages and cover, well edited, and attractively printed. It gives data on different types of fires, tells how to turn in fire alarms, and describes the different kinds of extinguishers, and offers suggestions for operation and upkeep.

Killed by Fall from Ladder

Frank Waski, a 27-year-old Norwich, Conn., fireman plunged 35 feet to his death from atop a metal aerial ladder on February 15 while fighting a tenement fire at 114 North Thames street.

Fireman Waski lost his balance when the ladder touched an overhead power line, according to eye-witnesses. An autopsy showed he died as the result of a head injury suffered in the fall, ruling out the possibility he was electrocuted.

Waski had been a member of the Department for about three years. He is survived by his wife. The tenement blaze, which was confined to an attic, was one of nine calls the Norwich Fire Department answered that day.

TOM MAGNER.

Hotel Fire

(*Continued from page* 183)

guests were removed over a ladder bridge from the hotel to a fire escape.

The heroism of the elevator operator, who operated his elevator amid the heavy smoke and who later required oxygen treatment, was commended as having helped save many.

MYSTERIOUS LABORATORY BLAST TRACED TO SALT BATH PROCESS

High Temperature Liquid, Used in Treating Aluminum-Magnesium Alloys, Believed Cause of Explosion

ONE of the problems faced by fire officers and fire marshals is the difficulty of determining the cause of explosions in laboratories and in industrial plants using processes and products of highly combustible, or explosive nature. The problem is further complicated where the company officials apparently are ignorant of the explosive characteristics of the products or processes used.

Such a situation faced the Riverside, Calif., Fire Department, R. E. Allen Chief, and his Fire Marshals, Charles W. Brague and B. L. Montgomery, following an explosion and fire at the Hunter Douglas Corp., 3016 Kansas Ave., Riverside, on the morning of Sunday, January 20, 1952.

The company occupies several buildings on the premises, the blast taking place in one known as the metals laboratory, a one-story frame stucco building with concrete floors and of approximately 1,665 sq. ft. floor space. The structure originally consisted of four rooms used as offices, one spectrograph room, one dark room, one polishing room and the main room as the metallurgical laboratory proper. This room contained laboratory work benches along the south and west walls with normal laboratory equipment and files. The metals laboratory was located about 6 ft. north of the chemical laboratory, and about 15 ft. east of Building No. 11.

The laboratory was used for general metalurgical operations, including the testing of metals in the process of manufacturing and for experimental work. In connection with the latter, there were installed two small vats containing molten salts, used, it is said, for the heat treatment of metals. The containers for the salts were approximately 10" x 14" x 23" deep, and were constructed of 10 gauge high tensile strength stainless steel. The salts used were called by the trade-name "Houghton's Draw-Temp 275"; the types and quantities of salt were not fully disclosed, but a company representative stated that the salts used in the salt bath were lithium nitrate, potassium nitrate and sodium nitrate—he did not know just what proportions.

When first fire fighters arrived in response to an alarm, which had evidently been delayed, they found an explosion had rended the metals laboratory building and the ruins had ignited. The blast had blown nearly all the plaster and stucco off the walls and partitions, leaving only a few studs supporting the roof on the east and north portions of the building. The roof covering of the laboratory portion was gone and the ceiling joists of this part were laying on the floor nearly intact. The center portion of the east wall had been entirely blown out and large electrical machinery had been displaced. The entire west wall was blown away.

Building No. 11, of Quonset type, about 15 ft. from this west wall, had one row of sheet iron blown off the rear side and glass broken out of the front side. The force of the explosion had thrown the plaster in a direction away from the laboratory area and the studs and walls which remained leaned away from it.

The fire, which resulted from the blast, spread rapidly throughout the debris and caused some damage to the eaves of the adjoining chemical laboratory before it was controlled by firemen for the most part using 1½-in. stream. In view of the exposure hazards, a second alarm was sounded, but firemen quickly controlled the blaze. Their most serious difficulty in operating at the fire was the unusually heavy concentration of automobile traffic and spectators in the area.

Fire following salt bath blast was brought quickly under control by Riverside fire fighters.

Damage caused by salt bath blast at Riverside, Cal.

Only one person was seriously injured in the fire. She was an employee who was working in the metal laboratory at the time of the explosion. She was located by employees lying under debris of the west wall, with her feet toward the building where the door had been, from which she had evidently been attempting to escape. When extricated she reportedly said, "I knew it was going to blow up."

Acting on her statement, and information furnished by workers, including maintenance men, the Marshals were able by process of elimination, and study of the wreckage and travel of the blast, to place the location of the salt bath, in the laboratory, although the explosion had left little equipment recognizable. No trace of the salt pots was found in the vicinity. However, the roof structure, comprising 2 x 10 ceiling joists held together by cross bracing, had settled practically straight down after the explosion and rested, fairly intact, on the concrete floor.

By checking the remains of electrical outlets, and locating the most serious point of damage to the 2 x 10 joists, the original location of the salt baths—and the blast was determined. This,

Photo by Russell Zito

Firemen attack supermarket fire from rear. Fire fighters advancing lines into cellar and main floor of burning Fair Lawn, N. J., supermarket, while others climb ladders to ventilate structure. Note barred windows.

with the other evidence bearing upon the force, direction of and extent of the explosion, discounted the original contention of some officials that escaping natural gas must have been the cause of the trouble.

The statement of the injured woman further disproved the natural gas theory. She reportedly told a company official that while in the metals laboratory she had seen the molten salt bath fuming and sputtering and knew something was wrong; that she ran for the electric controls and shut them off (this was later verified by the plant electrician), and then ran for the door. She said she knew something was going to happen.

From all the evidence the fire department reached these conclusions: There was no question that the explosion occurred from certain factors present that caused a violent reaction in the molten salt bath. This probably could have been prevented had the employees of the Hunter Corporation realized the hazardous potential in the salt baths, and if the salt baths had been equipped with proper safety controls; and, finally, if the fire department inspectors had learned of all the conditions concerning the presence of the molten salt bath on the premises. Previous inspections had failed to disclose the fact.

From statements of the metallurgist in charge at the time, aluminum alloys containing between 1 and 2 per cent magnesium had been safely treated in nitrate baths up to temperatures around 950 deg. F., and with certain other alloys up to 1000 deg. F.; however, they indicate that when higher temperatures are encountered, a violent and explosive reaction may set in. An official said that they had experimented with aluminum in salt baths from temperatures of 300 deg. F. to 1400 deg. F.; that he did not know high temperatures were hazardous, but did notice that higher temperatures caused difficulties. From this and other evidence, the further conclusion was reached that the salts in the molten salt baths were in the early stages of decomposing; that aluminum parts, alloyed with 1 per cent magnesium, were in the process of being heat treated; that the temperature of the salt bath was over the safe limits as prescribed by metals experts, and that because of these factors a violent and explosive reaction occurred.

Acknowledgement: The editors are indebted to Fire Chief R. E. Allen, Department Secretary K. B. Gundry and Fire Marshals Charles W. Brague and B. L. Montgomery, for reports upon which this account is based.

Masks and Fog Aid Attack on Supermarket Fire

On January 4th, 1952, a fire of undetermined origin swept through an Acme Supermarket at Plaza Road and Route 4, in Fair Lawn, New Jersey. In addition to the supermarket, an adjoining drug store was damaged by the fire, and four other stores suffered smoke and water damage. The fire was described as one of the worst in the history of the community.

The fire was at the extreme east end of a one and two-story brick joisted building, 100 feet deep and approximately 300 feet long. The building is divided into several sections by fire walls, which helped control the blaze, but it was not sprinklered. Last summer, another fire in the west end of the structure caused several thousand dollars loss to other occupancies.

The blaze was discovered in the basement of the 10,000 square-foot Acme Market at the east end of the building, shortly before 9:00 p.m. There were only a few customers in the store at the time, and they hurriedly left, together with employees. An alarm was turned in immediately, and the Fair Lawn fire department responded with four pumpers and a city service truck. The first-due engine arrived at the scene less than two minutes after the alarm was sounded. Firemen found dense clouds of smoke pouring from the supermarket. Six 2½-inch lines were quickly stretched and the building was laddered.

Hose lines were taken into the store through front and rear entrances, and through a rear cellar doorway. During these operations, firemen made good use of eight demand-type respiratory devices. Four 2½-inch lines, equipped with Bresnan distributors, were taken over the roof and directed into a four-foot cock loft between the ceiling and roof of the market.

Shortly after operations began, the rear portion of the floor caved into the basement, carrying with it refrigerators and showcases. This forced the crews working in the basement to back out. Fortunately, no one was injured. In the meantime laddermen were struggling to ventilate the building. In all, some 29 holes were cut through the roof, and six large plate glass windows were broken in this operation. In addition numerous holes were cut in the floor of the market. Firemen also had to force their way into several other stores in the building.

Fair Lawn fire fighters received additional help from East Paterson shortly

Photo by Russell Zito

Firemen use masks and fog to attack supermarket fire. This picture was taken shortly after firemen arrived and shows men preparing to advance lines into front entrance. Note fireman tending life line and other men equipped with demand type air masks.

after the fire began, in the form of two engine companies. In all, a total of ten 2½-inch lines and six 1½-inch lines were operated on the fire. Many were equipped with fog nozzles and extension applicators. These proved to be the most effective, and did a better job in penetrating the debris than the conventional nozzles. The main body of the fire was brought under control shortly after 1:00 a.m., and companies began picking up at 1:30. Approximately 5,000 feet of hose was laid during operations.

Firemen were fortunate in being able to keep the main body of the fire in the Acme store. Slight fire damage was done to an adjoining drug store, when the fire traveled through pipe recesses in the fire wall between the stores. However, firemen stretched a 1½-inch line into the basement of the drug store, and controlled the fire at this point before it assumed serious proportions.

Damage to the building and contents is expected to reach $300,000. The stock in the Acme store, valued at $60,000, was a total loss. $200,000 worth of damage was done to the building, and loss on the contents of the five other stores in the building was $40,000. Fire Chief Cornelius De Ritter and Deputy Chief Kenneth Lull were in charge of operations. Numerous injuries were reported during the fire, fortunately all minor in nature. The cause of the fire is being investigated.—RICHARD M. ADELMAN.

Fertilizer Plant Makes Hot Fire

Termed by veteran firemen of Fort Pierce, Florida, the biggest blaze in the history of the Fort Pierce area, the burning of the Naco Fertilizer Mixing Plant on Nov. 3rd, last, gave responding fire forces a hectic time.

The building, a 75 x 250 foot frame and corrugated iron, structure, was located one mile north of the City limits and well outside the municipal water supply system. It had a 14-foot cellar storage bin running the full length of the interior. A walking platform entirely surrounded the bin and two 62-foot high mixing elevators located therein. It is estimated that at the time of the fire the bin held over 400 tons of bulk fertilizer.

The first alarm, via telephone, was received by the Fort Pierce Fire headquarters at 1:13 A.M., and was answered by Combination Engine-Ladder 6 and Tank Truck 5, under direction of Assistant Chief R. L. Barton. Fire Chief Register was attending the Miami Fire School at the time of this incident.

According to Chief Barton and Captain Shirl Franklin, who responded with him, they saw what was in store for them when they rounded a turn in a road a mile away from the plant. Upon arriving at the scene and finding over three-quarters of the building involved, a call was sent out over Tanker 5's radio that brought all off duty men and all available volunteers with Tank Trucks 3 and 4 to the scene.

In the face of a 25 mile-an-hour wind out of the southwest, crews of Engine 6 and Tanker 5 did their best to halt the spread of the threatening fire until the arrival of reinforcements. The most serious exposures were several warehouses just across the street and north of the fire building; the main building, just south of the plant; and two freight cars of ammonium nitrate on the siding on the east side.

As rapidly as units arrived on the additional alarms, they were put to work in the effort to prevent extension to these hazards. It was a case of make every drop of water go the limit of effectiveness. While three companies worked on the exposures, one unit would be filling up with water. Water car flying units were operated in a relay fashion with men braving the heat to cool down the threatened exposures.

With visions of what might happen if the cars of ammonium nitrate let go, all possible efforts were made to keep these cooled down by breaking up the radiated heat from the main blaze, until a railroad yard engine could be secured to pull them out of the danger zone.

The fire, which knocked out all telephone and power service in the area, fully involved the plant within almost fifteen minutes. Within thirty five minutes the entire contents were practically destroyed, the fire pushing through the galvanized siding and roof, creating heat that precluded any direct attack upon the main blaze—even had heavy streams of water been available.

During the course of the fire, Engines 1 and 2 covered the remainder of the city. These were manned by volunteers under command of Captain Earl Roundtree.

The property damage resulting from the blaze was estimated at between $250,000 and $500,000.

Cincinnati Aids Glendale in Controlling Large Fire

It is not often that municipal fire and salvage companies go out of their own city to aid a suburban community, but such was the case in November when two companies of the Cincinnati Fire Department, Engine 48 and Ladder 14, and the Cincinnati Salvage Corps, responded to a call for help from neighboring Glendale, Ohio.

The fire, which threatened the Bethany Home for Girls, operated by the Sisters of the Transfiguration, was controlled after doing an estimated $35,000 property damage to the guesthouse of the Home, at 495 Albion Ave.

Attributed by Cincinnati's Fire Marshals Williams and D. M. George to a short circuit in wiring or an overloaded electric circuit, the blaze was first noticed by a Sister, who was working in the kitchen, when she smelled smoke. She notified the Mother Superior who found the source of the blaze on the second floor of the irregular shaped seven-room, stucco building. At the time of the fire the Mother Superior of the Convent and the 35 Sisters were attending mass in the chapel, which adjoins the guest house but is not part of it. The Sisters aided the caretaker, who was notified, and attempted to extinguish the fire. They passed him eight portable extinguishers, which he reportedly used unsuccessfully on the blaze.

Glendale firemen were handicapped because of the failure of their one pumper which was in the repair shop. A pumper was borrowed from the Wyoming, Ohio, Fire Department, but this also was reported hardly up to par although the only fire protection in the town.

Deputy State Fire Marshal James Kloth Sr., whose son is Fire Chief in Glendale, called Chief Barney Houston of Cincinnati for aid, and the latter at once dispatched the three city companies, with District Fire Marshal R. P. Williams in charge. This was at 7:30 A.M. At 8:30 A.M., Fire Marshal D. M. George relieved Chief Williams. The Cincinnati Salvage Corps, commanded by Assistant Chief J. Frank, responded with the fire companies, and its members used 200 tarpaulins to prevent heavy damage to the library and chapel on the second floor of the Home.

Responding companies were seriously handicapped in locating the Home because of the fog which blanketed the area at the time. Guides were employed to direct the Cincinnati fire fighters, most of them strangers to the town. Notwithstanding this handicap and the fact that the distance traveled was about 7 miles for Engine 48 and Ladder 14, 10 miles for the Marshal and 14 miles for the Salvage Corps, an excellent stop was made by the fire fighters.

The Sisters labored during the fire to remove furnishings from the ground

(*Continued on page 229*)

Fort Pierce Fertilizer Plant Makes Hot, Dangerous Fire

The Naco Fertilizer Plant approximately 35 minutes after arrival of firemen. Tall structures are mixing elevators that carried bulk fertilizer from bins into mixing room. Exposed warehouse is behind cameraman. Nitrate loaded freight cars are behind burning building.

MULTIPLE ALARM FIRES PLAGUE DALLAS, TEX., FIRE FIGHTERS

Dallas Companies Aid Suburban Forces In Fighting Destructive School Fire

A Staff Report*

MULTIPLE alarm fires continue to plague the Dallas, Texas, area. The fifth such fire to hit the city within an 11-day period destroyed a sprawling upstairs dance hall in a two-story brick building at 421½ N. Harwood street, causing damage estimated at $50,000. Three firemen were injured by falling bricks.

This blaze came three hours after nearly 450 persons had left the Clover Dance Club, and brought losses for the period to $277,500.

Flames were shooting out of the second-floor windows and the roof when the fire was first observed. Three alarms were turned in for it almost simultaneously. An alarm box at Bryan and St. Paul was pulled, followed seconds later by two telephone calls. About the same time a police squad saw smoke, while still a block away. The squad was the first to arrive at the scene. The fire appeared heaviest in the rear of the building.

Fire Chief C. N. Penn shot in additional alarms until 15 pieces of fire equipment were in operation. Because of the dangerous condition of the walls, the blaze had to be fought from the outside, and men were kept at a distance. Notwithstanding this fact, heavy streams, striking the top of the structure, scattered brick on three sides. Three firemen were struck and treated at Parkland Hospital for bruises and cuts. None of the men was seriously injured. The cause of the fire was not disclosed.

This four-alarm blaze followed less than 24 hours a two-alarm apartment house fire where fast work by fire fighters held losses to a minimum.

*Acknowledgment is made to Linwood J. Martin, Dallas, for information upon which this report is based; also for photographs which he supplied.

Highland Park School Destroyed

Although not within Dallas proper, the Dallas Fire Department was called upon to help fight a raging fire that completely wrecked the 35-year-old John S. Armstrong Elementary School in suburban Highland Park.

Highland Park School building at height of fire.

Characterized by W. H. Naylor, Highland Park fire and police chief, as the worst fire in his 23 years with the town, the blaze caused property loss of over $200,000 and robbed 462 students and 23 teachers of their classrooms.

The building that burned is located at Cornell and Byron streets in Highland Park. It was started in 1916 as a 1-story, 4-room structure. A few years later, a 4-room second story was added and, in 1928, an 8-room, 2-story addition was built behind the original building, facing St. John's Drive. In 1950 a one story addition was built on the southwest side of the main building. This addition was saved by fire fighters.

The fire was discovered at 9:02 P.M. by a Highland Park radio patrolman who radioed his dispatcher "Flames are coming out of the roof. It looks like it's burning all over. Get all the fire trucks you can out here."

Highland Park dispatched its 16-man department and two engines, calling for two pumpers from University Park. Additional help was shortly asked from Dallas, and a battalion chief and pumper and ladder truck responded. As soon as this officer reached the scene, he promptly radioed for three more engines. Additional officers and apparatus units were called until a total of six engines and three ladder trucks, with three chiefs, were at the fire.

The fire spread swiftly from the point of origin, in the attic, throughout the school. Within an hour from its start, thirteen pieces of fire equipment from Highland Park, University Park and Dallas were fighting it, but it was a hopeless struggle and the building still blazed at midnight.

Firemen braved heavy smoke on the ground floor to push in and lock valuable tax records in vaults during the early stages of the fire. Dallas Battalion Chief I. L. Reid (Batt. 2) said fire fighters concentrated their efforts on the room containing the tax records and saved it, although the room above was gutted.

The weather favored the firemen, a drizzle protecting roofs in the area against the showers of sparks sent up as the school roof and floors fell in.

Clover Club building, Dallas, after fire had been brought under control.

January Fire Losses

Estimated fire losses in the United States during January were $74,155,000, it was announced by Lewis A. Vincent, general manager of the National Board of Fire Underwriters.

This is an increase of 8.7 per cent over losses of $68,206,000 reported for December, 1951, and an increase of 7.9 per cent over losses of $68,686,000 for January, 1951.

These estimated losses under fire insurance policies include an allowance for uninsured and unreported losses.

When it's a rough one...

Rough jobs call for tough men and tough equipment. Hose must have maximum pressure at the nozzle, must not writhe or serpentine. Such a hose is Eureka. Compare these four advantages—

BALANCED-WEAVE CONSTRUCTION, in both multiple-woven and double-jacket hose, eliminates dangerous writhing and twisting under high pressures.

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Short Cuts and Gadgets

NORFOLK SAYS REVERSE YOUR LADDERS

The following is taken verbatim from the manual of the Norfolk, Va., Officers' Training Course.

CARE OF LADDERS. . . . "The ladders carried on our wagons and engines should be turned end for end ever so often. It seems that it is an iron clad rule that the heel of the ladder must be carried to the rear of the apparatus. If this ladder is reversed ever so often, as mentioned before, it will eliminate exposing one side of the ladder at all times to the weather, which has a tendency to deteriorate the glue holding the rungs into the beams, thus weakening that side of the ladder. This will also apply to the ladders carried on the sides of trucks, but it will be necessary to change ladders from one side of the truck to the other, especially on the new trucks, as certain rungs have metal guards to prevent the ladder holder from cutting into the rung."

* * *

PUMPER USES "KEEP BACK" WARNING

Signs on fire vehicles warning followers of fire apparatus have heretofore largely been confined to ladder trucks. (And while we're on the subject it's regrettable that there is lack of standardization between states, and cities on the distance following vehicles should keep.) Now, we find that pumpers are sporting the warnings. For example, Engine 71, Bronx, New York, has a neatly painted sign in red and white, which runs across the rear brace over the hose compartment of the pumper reading: "KEEP BACK 200 FEET."

This tip-off came from Contributor Jerry Daly's excellent column in the Chief (Feb. 14, 1952).

* * *

MAPPING OUT RESPONSE TO IMPROVE FIRE ATTACK STRATEGY

More and more, scientific principles are being applied to the business of fire attack, control and extinguishment. More and more, "short cuts" and "new fangled ideas and equipment" are being developed to aid the progressive fire fighters, as attested by *Fire Engineering* over the years.

Another instance of how the old hit-or-miss, by-guess-and-by-gosh methods are being supplanted is contained in this account of how the Bakersfield, Cal., Fire Department, Phil C. Pifer, Chief Engineer, is using what it calls a "Hydrant Response Map" to speed up fire department response.

Actually the title is a misnomer, because the system adopted furthers other factors of fire attack as well as response. But, let Chief Pifer tell it.

"We submit to *Short Cuts and Gadgets*, writes the Chief, "a copy of what our department calls a *Hydrant Response Map*, which came into being in the following matter: Upon reactivation of the Civil defense Auxiliary Fire Department in July of 1950, it was evident that an easy and certain method of hydrant location keyed to fire location would need to be devised for officers and engineers of Auxiliary Fire Equipment as these Civil Defense Volunteers could hardly be expected to memorize locations of over 1,000 municipal fire hydrants.

Each fire alarm district is reproduced and each intersection numbered (on a convenient map); actual street box locations are listed, with the last two numbers boxed in as shown on the accompanying District Map diagram. All fire department hydrant locations are indicated on the map by red circles, the street name or number as well as the block number being also shown. Miscellaneous information pertinent to the respective District covered is reflected by a card on the reverse side of the map (not shown herein).

While this method of fire hydrant location was devised as beforesaid, it has proven so successful that all pumping engines, squads and chiefs' cars are now equipped with complete sets of Alarm System District Maps. These are filed in small metal cases, permanently installed aft of the drivers' seats. Fire Alarm Operators give the Alarm District Number over the Fire Department Radio for guidance of equipment or other Fire Department vehicles which are "in service" on the radio while out of station locations.

This solution of a Civil Defense problem, which was found highly adaptable to normal fire department operation is submitted for the value it may have to departments with similar problems. "While this city has a complete alarm coverage," concludes Chief Pifer, "and operates therewith, this idea could readily be adapted to any department with only telephone communications."

* * *

LOUDSPEAKER REPLACES SIREN?

According to the press, firemen of Roselle Park, N. J., have abandoned the use of a siren for a loudspeaker mounted atop the Lorraine Hose Company's apparatus in clearing the way to fires.

The loudspeaker may be turned in a complete circle to direct the sound or warning—by a microphone in the cab—of the approach of a fire apparatus, Fire Commissioner W. Edward Richards said.

* * *

The Old Timer Says—

I'm glad t' note the apparatus manufacturers are getting away from pumpers with side running boards. Too many good men have been injured riding the sides of pumpers.

YOUR EXPERIENCE is built into your Gerstenslager Rescue Car

Experience in dealing with emergencies is advantage No. 1 to any fire fighter or other guardian of public safety. Emergency brings its own quota of unexpected problems but the margin of unexpectedness can be sharply reduced through foresight based on experience.

Gerstenslager Rescue Cars appeal to the good judgment of men with long experience in meeting emergencies because each one is designed and built to individual specifications. Each one can thus incorporate the foresight based on experience of the public safety official or board charged with responsibility for performance.

Your experience is supplemented and reinforced by our experience in producing custom-built equipment. The result, due to our specialized methods and skilled plant personnel, is an enduring dependable unit at moderate cost.

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FALSE ALARMS

Warning

The farmer was desperate. His cow was going to have a calf and he had no help. In his desperation he rounded up a drunken bum staggering along the highway. The bleary-eyed tramp was not of much help, but did what he could. After the calf was born, and stood tottering on his unsteady legs, the drunk, pausing in brushing the straw and dirt from his clothes, pointed a finger at the calf, and exclaimed: "Let that be a lesson to you, young fellow. Don't you ever go in there again!"

First Cow: "What do you think of the new farm hand?"
Second Cow: "I think he's an awful jerk."

"What are you doing now, Joe?"
"I'm a psychiatrist in a pottery plant."
"What's that?"
"I take care of the cracked pots."

A true music lover is one who on hearing a blonde soprano singing in the bathtub puts his ear to the keyhole.

"Hey!" cried Satan to the new arrival, "you act as if you owned this dump."
"I do. My wife gave it to me."

You don't get ulcers from what you eat. You get them from what's eating you.

It was a dark and stormy night, and the freight train stood puffing on a siding.

As the brakeman signaled to the engineer, he dropped his lantern. The switchman on the ground caught it, and tossed it back to the man atop the car. A few minutes later the engineer rushed up:

"Let's see you do that again," he demanded.

"Do what?" asked the trainman.

"Jump from the top of that boxcar to the ground and back up again."

Math Production

Ho: "Do you know how to keep rabbits from adding and multiplying?"
Hum: "Why, divide them, of course."

Sign in a machine shop: "Warning to girls—if your sweater is too large for you, look out for the machines. If you are too large for your sweater, look out for the machinists."

Maybe you can't make a silk purse out of a sow's ear, but many a woman has gotten a mink coat out of an old goat.

A man who doesn't know his own strength has never helped his wife with house cleaning.

Boss: "I thought you said it was parlor story."
Editor: "It was. I heard it in a billiard parlor."

Little Junior and his mother were visiting in the country. While they were walking along the lane, Mama pointed to a herd of cows in a nearby field.

"There's a bull, too, Mama. Wanna know how I can tell it's a bull, Ma?"

"No, Junior, shh!"

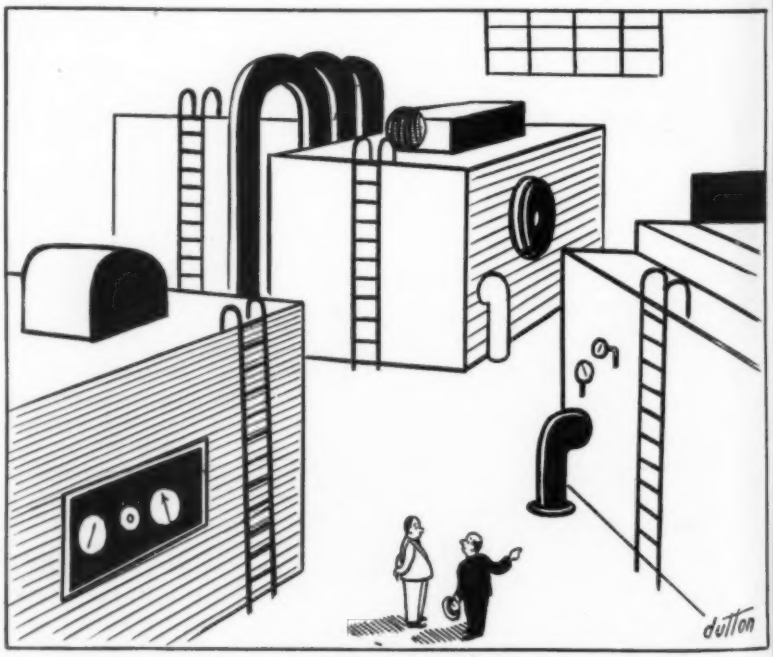
"But Ma, I wanna tell you how I know it's a bull."

"Not in front of all these people, Junior."

"Mama, I know it's a bull because its got—"

"Junior! I'll kill you—"

"—because it's got a ring in its nose."



"I'd be right at home on this job. I'm a volunteer fireman!"

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INDOORS AND OUTDOORS

YOUR *BEST* PROTECTION

FOR FLAMMABLE LIQUID, GAS AND ELECTRICAL FIRES

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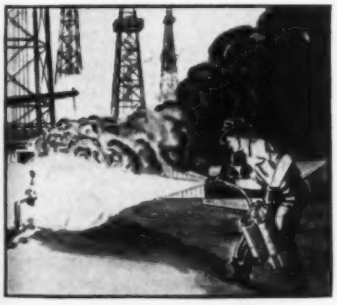
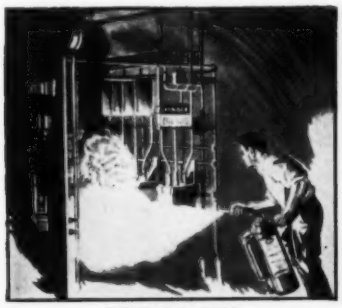
FIRE EXTINGUISHING EQUIPMENT

TEXTILE LINT FIRES



FLAMMABLE LIQUID FIRES

GAS FIRES



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STATIONARY EXTINGUISHERS AND PIPED SYSTEMS

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TRUCK MOUNTS, TRAILERS AND SELF-PROPELLED UNITS

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Ansul Dry Chemical Fire Extinguishing Equipment has world-wide recognition as preferred protection for flammable liquid, gas and electrical hazards. Yet a surprising number of Ansul Extinguishers are used to protect textile mills and paper mills against serious loss from surface fires such as occur in textile lint and combustible paper dust. The textile and paper making industries rely on Ansul Extinguishers for quick control of dangerous flash fires in class "A" (ordinary combustible) materials. Any remaining embers are quenched with small quantities of water, thereby keeping water damage at a minimum. Surface fires in textile lint and combustible dusts spread rapidly. They need quick control. If you have serious lint or dust hazards, talk with your Ansul representative. He may have suggestions to reduce fire damage and lost production time.

Send for File No. 914. You will receive a variety of helpful printed matter. Included is our latest catalog which describes Ansul Extinguishers of all sizes — from the small Ansul Model 4 to Ansul Piped systems and Ansul 2000 lb. Stationary Units.

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Pyrene Playpipe, pickup tube, hose adapter, 4 gals. Pyrene Air Foam Compound—just $60. Everything you need!

One playpipe enables you to put out flammable liquid fires, bad spill fires. Multiplies fire-fighting capacity at locations where there is only a limited water supply.

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Convention Dates

April 1-4—GREATER NEW YORK SAFETY COUNCIL. Annual meeting, Hotel Statler, New York, N. Y. For information contact the headquarters of the Association, 60 East 42nd Street, New York 17, N. Y.

April 16—FIRE CHIEFS EMERGENCY PLAN OF WESTCHESTER COUNTY. Monthly meeting, Town of Mamaroneck. Recording Secretary, A. R. Miles, 8 Roselle Ave., Pleasantville, N. Y.

April 25-27—CALIFORNIA RURAL FIRE ASSOCIATION. Annual meeting, Hotel Senator, Sacramento, Cal. Secretary, Clifford A. Ommert, 215 Battery St., San Francisco, Cal.

April 28-May 2—MINNESOTA STATE FIRE SCHOOL. Annual meeting, University of Minnesota Farm School Campus, St. Paul, Minn. For information contact Leonard C. Lund, Deputy Commissioner, Fire Marshal Department, Saint Paul 1, Minn.

April 28-May 2—ARSON INVESTIGATORS SEMINAR AND TRAINING SCHOOL. Annual meeting, Purdue University, Lafayette, Ind. Director, Professor J. L. Lingo, Public Safety Institute, Purdue University, Lafayette, Ind.

May 12-13—GEORGIA FIRE COLLEGE. Annual meeting, Atlanta, Ga. Director, Harry Phillips, Fire Headquarters, 46 Courtland St., S.E., Atlanta, Ga.

May 19-24—CONNECTICUT FIRE COLLEGE. Annual meeting, New Haven Fire School, New Haven, Conn. For information contact L. W. Eddy, Supervisor, Service Training, Vocational Training Field Service, Department of Education, 490 Capitol Avenue, Hartford, Conn.

May 21—FIRE CHIEFS EMERGENCY PLAN OF WESTCHESTER COUNTY. Monthly meeting place to be announced. Recording Secretary, A. R. Miles, 8 Roselle Ave., Pleasantville, N. Y.

May 26-28—OREGON FIRE CHIEFS ASSOCIATION. Annual meeting, Medford, Ore. Secretary, Chief W. P. Roble, Fire Headquarters, Salem, Ore.

May 26-29—INDIANA STATE FIRE SCHOOL. Annual meeting, Purdue University, Lafayette, Ind. For information contact Francis Hartman, Associate Director, Department of Fireman Training, Public Safety Institute, Purdue University, Lafayette, Ind.

June 2-4—EASTERN ASSOCIATION OF FIRE CHIEFS. Annual meeting, Reading, Pa. Secretary, Joseph A. Giammatteo, Chief of the Fire Department, Glen Echo, Md.

June 3-5—KENTUCKY FIRE SCHOOL. Annual meeting, University of Kentucky, Lexington, Ky. Chairman Fire School Committee, John L. Thompson, Kentucky Inspection Bureau, Louisville 2, Ky.

June 4-6—NEW YORK STATE FIRE CHIEFS ASSOCIATION. Annual meeting Binghamton, N. Y. Secretary, Henry F. Drake, Clinton Corners, New York.

June 10-12—SOUTHEASTERN ASSOCIATION OF FIRE CHIEFS. Annual meeting, Lexington, Ky. Secretary-Treasurer, Chief G. A. Mitchell, Opelika, Ala.

June 16-27—OKLAHOMA FIRE HAZARD CONTROL SHORT COURSE, Oklahoma A. & M. College, Stillwater, Okla. For information, write W. Fred Heisler, Oklahoma A. & M. College.

June 18—FIRE CHIEFS EMERGENCY PLAN OF WESTCHESTER COUNTY. Monthly meeting, Valhalla, N. Y. Recording Secretary, A. R. Miles, 8 Roselle Ave., Pleasantville, N. Y.

June 23-26—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. Annual meeting, Hotel Wentworth, Portsmouth, N. H. Secretary-Treasurer, John W. O'Hearn, 206 Mt. Auburn Street, Watertown, Mass.

June 25-27—MARYLAND STATE FIREMEN'S ASSOCIATION. Annual meeting, Ocean City, Md. Secretary, Ted C. Gardner, 6313 59th Avenue, Riverdale Heights, Md.

July 14-16—WISCONSIN STATE FIRE CHIEFS ASSOCIATION. Annual meeting, Beaver Dam, Wis. Secretary-Treasurer, Douglas J. Dunlop, Chief of Fire Department, Wauwatosa 13, Wis.

Aug. 4-8—PENNSYLVANIA FIRE SCHOOL. Annual meeting, Lewistown, Pa. For information write Edgar A. Spotz, Public Service Institute, P. O. Box 911, Harrisburg, Pa.

Aug. 11-15—INTERNATIONAL ASSOCIATION OF FIRE FIGHTERS. Annual meeting, Seattle, Wash. Secretary-Treasurer, George J. Richardson, A. F. of L. Building, Washington, D. C.

Aug. 18-22—FIREMEN'S ASSOCIATION OF THE STATE OF NEW YORK. Annual meeting, East Rochester, N. Y. Secretary, Eugene M. Braun, 4025 Main Street, Buffalo 21, N. Y.

Aug. 25-28—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. Annual meeting, Boston, Mass. Secretary-Treasurer, Daniel B. Tierney, 8 Robbins Road, Arlington 74, Mass. Headquarters Manager, J. E. Jagger, 22 East 38th Street, New York 16, New York.

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The ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

EXTRA-CURRICULAR WORK FOR FIRE DEPARTMENTS

THE discussion in this Round Table is a continuation of that which appeared in the February issue of FIRE ENGINEERING on extra-curricular work for fire departments.

The generous response from our readers makes it necessary to carry the discussion over to this issue and to the April issue as well.

Readers are invited to send in their comments on this subject which is described in the box below, to Round Table Editor, FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

Discussion of the Question

Edward C. Wischer, Chief, Milwaukee, Wis.: The fire department has been called upon in recent years for help in emergencies which were formerly considered the work of other organizations. Some of these tasks are given below:

1. There has been a great increase in chimney fires due to lack of chimney cleaning by occupants. The old occupation of chimney sweep seems to have died out and people do not seem to be able to learn that keeping chimneys clean is a fire preventive action and for their own best interests.

2. We have had to remove cats from trees, birds caught in trees or wires, animals trapped in various ways. This should be the work of the Humane Society, but the department is often called.

3. We have had to unlock doors for occupants forgetting keys; have had to remove children with feet caught in drains or locked in bathrooms, etc.

4. We have removed ice from roofs and gutters.

5. Rescue squad calls. Such calls for oxygen and first aid have been so greatly increased that the department has had to add two more squads in the last two years. We now have four on duty. This type of emergency service is not fire fighting duty, but is part of the medical service in the community.

6. Removing snow from hydrants in winter. This should be the duty of the Department of Public Works, and not the responsibility of the Fire Department. It takes men away from quarters at a time when manpower is needed.

7. Removal of trees blown down or fallen down, when blocking thoroughfares. This should be the duty of the Forestry Department, but we are called to clear the way. It has been necessary to add chain saws for cutting up trees.

8. Wires down. This should be the responsibility of the Power Company, but we are often called. It often requires the presence of firemen for many hours until electric company personnel arrives. The public is being protected, but believe this service could be provided in some other manner.

9. Fireboats have been sent up and down the river to churn snow that is dumped in it.

10. The department is called when oil tanks are damaged or leaking. These tanks should be properly diked at all times so that any spillage cannot extend and create fire hazards.

11. Removal of water from buildings caused by sewers backing up, sprinkler heads letting go without fire being present. This takes many hours of pumping and cleaning up.

Many tools have been added because of these extra duties, with special items being devised for future incidents. Many types of rescue equipment have been devised by our personnel, one of the most recent being a hook arrangement for assisting in removal of feet of children caught in drains. Chimney cleaning equipment, various saws, drills, etc., have been added as discovered during emergencies.

I do not believe the department should be called upon to perform duties not related to the fire protection and prevention needs of the community. The department is created

HERE IS THE TOPIC

1. **Have you found that the fire department, in recent years, has been called upon for help in emergencies which formerly were considered the work of other organizations?**
2. **Has it been necessary to add special tools or equipment to handle similar emergencies should they occur? What equipment?**
3. **Do you believe the fire department should lend its help where emergencies have nothing to do with fire protection, or fire fighting? If so, why? If not, why?**

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for the specific purpose of fire fighting and fire prevention with personnel allocated to apparatus and equipment in accordance with standards established by the National Board of Fire Underwriters for this specific purpose. Extraneous duties, in my opinion, draw upon the regular manpower and thereby weaken the department for its original purpose.

Howard Dey, Chief, New Orleans, La.: In recent years the New Orleans Fire Department has been called upon to assist in holding back caved in levees during flood waters and to assist in rescue during the hurricane seasons.

It has been necessary to have special equipment similar to those carried on ambulances or auto wreckers, such as jacks.

When the emergencies occur, and when the chief does not seem able to decide whether or not he wants to send aid, he is ordered to do so by the commissioner. Here in New Orleans the mayor has, however, provided a disaster committee and it is composed of all public utilities public and private, medical, communication, etc., and within one hour the district contacted takes over. This has relieved the fire department in New Orleans of a lot of responsibility.

Here in New Orleans, the Department is called upon to open locked doors, to get cats out of trees and other nuisances that certainly are not part of fire fighting.

Michael L. Lotz, Chief Engineer, Baltimore, Md.: The Fire Department has been handling various types of emergency cases for a number of years past.

The Baltimore Fire Department has a rescue company equipped to render service in nearly any emergency. Apparatus is equipped with a crane for lifting and carries self-contained and canister masks, oxy-acetylene cutting equipment, elevator tools, electric saws, bar cutters, electrical safety tongs, heavy duty jacks, and numerous other tools and equipment for rescue and emergency work.

The Fire Department is usually looked upon as an agency dedicated to the protection of lives and property, and it tends to foster good public relations to render such service.

Lawrence P. Scully, Chief, Erie, Pa.: We have found that we have been called upon more frequently than in the past for help in emergencies which were considered the responsibility of other organizations.

We have added tools and equipment to service automatic refrigeration equipment, such as keys for shut-offs and special wrenches for relief valves.

We carry a sufficient number and variety of tools on our apparatus to meet most emergencies that have occurred so far.

I feel the fire department should lend its aid. For the little time it usually takes and the goodwill it creates, the fire department's public relations are more than amply rewarded.

Robert L. Woolard, Chief, Norfolk, Va.: We have been called upon to perform emergency duties which were the responsibility of other organizations.

We have had to add special equipment such as salvage covers to cover leaky roofs caused by storms, a siphon for pumping out basements in the mercantile district where stocks are stored and water cut-off wrenches for

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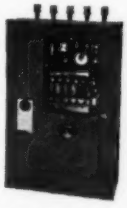

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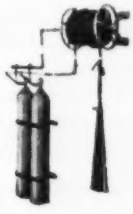

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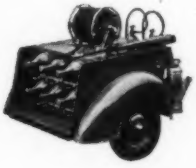

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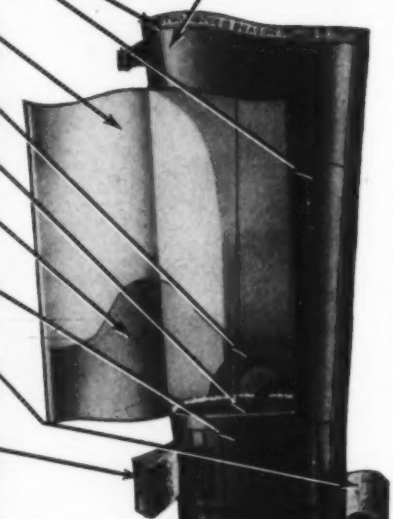
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cutting off water from the street in places where the pipes have burst for any reason.

I believe the fire department should perform these services to promote good public relations which is all-important to good cooperation between the public and the fire department.

John J. Nelligan, Chief, Bangor, Me.: We have had to keep the downtown area cesspools open to carry away the excess rain water during heavy rain storms or minor floods.

We have a rescue truck in the department with emergency equipment and tools, floodlights, jacks, acetylene cutting torches, etc.

We believe it good public relations to render our assistance at any time in cases of emergency. We operate the city ambulance with regular firemen from fire department headquarters at all hours of the day or night.

We also maintain a boat for drowning accidents or any other emergency that may occur on or around our local waters.

Ben J. Zahn, Chief, Ann Arbor, Mich.: We are not called upon at the present time to take care of any emergencies that we have not been taking care of for the past twenty-five or thirty years, since we have always given help when we have deemed it necessary.

We have not purchased any special equipment other than a resuscitator and a 10-foot long hot stick wire cutter. Either of these items may be used in conjunction with fires or without.

I do believe that fire departments should render help at any time when a life can be saved, whether at a fire or otherwise, as I have never come in contact with any other organization which responds as quickly as a fire department. I further believe that there is no better way of improving a department's public relations.

Clyde Dunn, Chief, Omaha, Neb.: We have added a boat, iron lungs, oxygen tent, gas detecting devices, etc., to take care of the new emergencies we are required to handle.

Of course, every chief hopes for the day when he and his department will be alowed to pay attention to strictly fire emergencies, but at the same time he knows that in order to maintain or promote good public relations, he must accept certain foreign evolutions as far as fire department procedure is concerned. First, drownings have become a part of this department's activities, and we have bought grappling hooks, diving helmet and even a boat with an outboard motor, including trailer for same. Second, iron lungs have been supplied, delivered and maintained by the department, which, in my opinion, should have been the responsibility of each hospital who makes use of them. The servicing and storage of lungs should be absorbed by each hospital rather than the fire department doing so. Also, each hospital should own and service at least one oxygen tent, rather than depend on the fire department for same, as we do in this city. Third, it has become the custom to refer all basement flooding emergencies to this department, which has taken men away from their normal fire duties in order to service this type of evolution. We have not bought any additional equipment for this service, how-

Minneapolis, Minn., firemen string out a chain of ladders over the ice-covered Mississippi River to get cables to a 400-ton barge that had been swept from its moorings by a wall of ice.

ever, to date. Fourth, in cooperation with our local utilities district, we have adopted what, in my opinion, is a good evolution, inasmuch as we have been supplied with the necessary detection meters for the detection of any domestic gas leaks or carbon monoxide fumes.

It appears to me that it is up to each chief's respective positon as to manpower, equipment, etc., and what he thinks he can afford to supply over and above the necessary functions connected with fire safety in his particular city.

L. D. Blanton, Chief, Tampa, Fla.: We have found that we are taking over many drowning cases which require a boat, drag locks, lights to search bottom, first aid equipment, etc. We also must supply men who are experienced in this work.

We have also been asked to get cats off roofs, out of trees, etc.; to take balls off school buildings; to replace rope on flag poles and to replace halyards and metal chains which have been broken or worn out.

There is a demand for these services by the public, but I don't believe we should have to give some services that we do.

George T. Morgan, Chief, Wilmington, Del.: We have been called upon to assist in emergencies which have nothing to do with fire fighting and which were formerly considered the work of other departments.

We have added resuscitators to our equipment.

A municipal fire department is considered a branch of public safety and serving the public is one of its duties. I know we have had considerable calls for leaking roofs and water in basements. I think these jobs should be taken care of by other departments than the fire department, except where there is sickness or considerable damage before other mechanics could be obtained.

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Among the Buffs

By Paul C. Ditzel

ONE thing about this balmy Southern California weather is the lack of strain and stress in following this engine-chasing hobby. With our new convertible we are able to dash off to fires with the top down! And at this identical time of the year in Chicago my former firefan pals put on several heavy coats and slide and skid and wade through snow drifts to follow their hobby.

The Eastern buff who sees Southern California for the first time is impressed with the architecture of the area's fire stations. They all look like something Hollywood dreamed up. None of those drafty smoke-eaten barns you find so readily in most Eastern cities. The nearby Beverly Hills fire station looks like an ultra-modern hotel. I didn't get a chance to see if they had a swimming pool out back but it wouldn't surprise me if they did.

Although structure fires here in Los Angeles seldom approach the intensity and area of some of our Eastern cities, the local buffs are nonetheless devoted to their hobby. Although Los Angeles' Box 15 Club is not officially recognized, the fans here boast their department is the finest in the world.

I was especially impressed with the unique—for me at least—way in which Los Angeles buffs find out about fires. The Los Angeles Fire Department has its own radio station on a FM frequency. None of the alarms are broadcast unless equipment due to respond is away from its station. Once apparatus leaves the station, for drill, for fires, or whatever reason, they tune in their radio.

All fires in structures get a full response of at least two or three engines, a hook and ladder, a salvage rig, and a battalion chief. Certain areas get somewhat different response, such as Squad 23 in the downtown district.

But the Fire Department in Los Angeles does not dispatch equipment by transmitting the nearest box. A "Long Bell" at each station due to respond tells the man on watch to pick up the telephone over which he is given the location.

So the first the buff is aware of a fire is when the first due engine or the chief reaches the scene and radios back what it has. Many of the Los Angeles buffs have some of the most elaborate radio systems and antenna setups I've ever seen. It's the talkback they have to depend upon before they can tell where the equipment has gone—even if they hear apparatus responding.

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"Engine 52, Roger." Westlake then broadcasts three tone signals:

"BEEP, BEEP, BEEP. Westlake to all companies responding to 5426 Virginia Ave. return to quarters. KMA 706."

But if Engine 52 would radio in they had a "Goodie" as Friend Don Shelburne of The Fire Fan Register would say, you are likely not to be aware of it unless you heard the talkback as Westlake would merely say, "Engine 52, Roger," and let the balance of the as-

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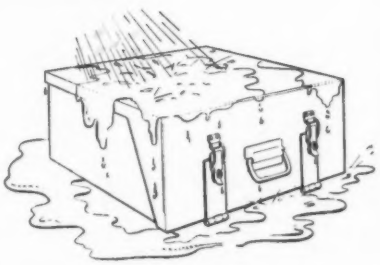

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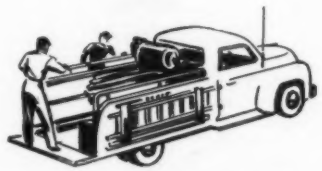

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In FM 2-Way Mobile Radio..
..more than twice as many Motorola installations than all others combined.

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You won't be fighting a fire today and a cold tomorrow if you're equipped with *U. S. Royal* Firefighter Boots. Made specially for rugged use, they resist water, acids or chemicals. And those tough cleats may prevent a fatal slip . . . even on icy pavements.

U. S. Royal Firefighter Boots

- Reinforced ladder shank
- Wide skirted top pulls on or off, FAST
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- Boot lining and insole of soft, warm felt
- Super-cushiony insoles
- Storm King or Short Boot lengths
- White cleated outsole for visibility
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U. S. Royal Firefighter Coats

100% waterproof coats of sturdy black rubber with warm, maroon napped lining. Roomy, 2-piece body, raglan shoulders; fly-front with instant snap and dee fasteners; roomy outside patch pockets. No stitching in main body; seams cemented, outside gum-strapped. Fully vulcanized after making.

US ROYAL FOOTWEAR

UNITED STATES RUBBER COMPANY

Serving Through Science

ROCKEFELLER CENTER, NEW YORK

signment follow in to the location.

Thanks to Fire Buffer Gene Bun, himself an expert radioman, I've been using a converted army tank radio, known to many of you buffs as a BC683. The talkbacks are on the same frequency as the main transmitter. Other buffs have had excellent results with Gonset converters both in their cars and at home.

Also prominent among local buffs is George "Smokey" Bass who is anxiously awaiting the time when he can join either the Los Angeles City or County Department. The County has a large sized department. One of their captains, Tom Showers, is an ardent buff and specializes in models of fire equipment. Tom writes a top notch column in The Register.

Picture specialist is Dale Magee, a school teacher by day, and a firefan by night. President of the Box 15 Club is Glen Alton who has two pieces of fire apparatus of his own. He rents the equipment to Hollywood motion picture studios whenever they have need for old time apparatus. A recent Bob Hope picture has one of Glen's aerial ladders in it, with Bob Hope swinging from the top of it.

I see from my old stamping grounds around Chicago that Leap Year has hit the Ottawa, Ill., fire department. The good ladies of Ottawa took over the city February 29 and levied fines against recalcitrant bachelors. Proceeds of the fines will go toward a new first aid unit for the City Fire Department.

Among the punishable offenses to benefit the new rescue outfit were: Failing to agree with the judgment of a woman; arguing with a woman; planning to leave town Feb. 29 (and getting caught in advance); making unkind remarks about woman drivers; complaining about getting a summons to the powder puff court; or allowing their sons to remain single.

These are pretty stiff offenses, as this bachelor of less than three months ago will be the first to agree. But a good rescue rig is worth it.

Sorry to be so slow in answering letters from many of you buffs. Our furnishings have been slow in reaching us from Chicago and mail has been reaching us as much as two months after postmarking. I had hoped to devote most of this column to the more pressing business from buffs, including some good anecdotes on hand. By next issue I hope to be squared away.

Thanks to Buffs Tom Jewett, Jr., in Kansas City and Mac McDonnell in St. Louis who offered a guided tour around their city fire departments as we drove west. Sorry, Tom and Mac, our route took us from Chicago back to Buffalo and Canada (to see my folks) and then down to New Orleans and across Texas and the southwestern states.

Returning to service, I'll add still another mailing address and promise this one will endure for at least a month! Send your comments and anecdotes and fire stories to me care of the Associated Press, Post Office Box 2416, Terminal Annex, Los Angeles 54, California.

More Dwelling Inspections

Among the latest cities to promote dwelling inspections, as part of the national home inspection drive (save the lives of 4,000 children this year) are Phoenix, Ariz., and Norfolk, Va. Radio communications, which keep the inspectors constantly "in service" are a great help.

World Wide Fire News

By Roi B. Woolley

Nearly Billion for Worst Inundation

Documentary records released by the Army Corps of Engineers place the tangible damages in last July's flood disaster, the nation's worst, at $870,245,000. It was not disclosed whether or not this sum included the fire losses incidental to the floods in Kansas City and elsewhere. The study was compiled by engineer experts brought to Kansas City from divisions throughout the country.

The tangible loss figure does not include heavy losses just outside the Kansas River basin in the Arkansas River watershed.

The study said the flooding, which began in May last year and reached its climax in July, inundated 2,256,300 acres, seriously affected 183 towns and cities, forced evacuation of 87,366 persons, destroyed 2,533 homes and flooded 24,893 more; destroyed structures of 354 business concerns and inundated an additional 3,889; flooded 251 churches and schools and cost the lives of 18 persons.

* * *

States Linked in C. D. Mutual Aid Pact

A series of civil defense pacts now link the States of New York, New Jersey, Connecticut and Massachusetts, it is announced, which permit mutual interstate assistance should an atomic attack or other disaster occur in any of the four states.

Separate two-state pacts among all four states, except Massachusetts and New Jersey, have already been signed by their Governors and approved by the State Legislatures. The first interstate civil defense treaty in the nation was the one between New York and New Jersey, arranged by Governor Thomas E. Dewey and Gov. Alfred E. Driscoll.

Details of interchangeable fire-fighting equipment, auxiliary police, medical supplies and refugee housing are being worked out by the state civilian directors' aides.

* * *

Sprinkler "Brings Down the House" at London Show

They're still talking about the opening night of the farce "And So To Bed" presented by the New Theatre in London.

In the first act, Hazel Jennings reached for a top note in the song "Gaze Not on Swans" and was hit in the neck by a jet of water. It wasn't cologne, either. Nor did it come from the audience, but from the wings.

A stage hand swarmed up a ladder and stuck his finger over a leak in an automatic sprinkler.

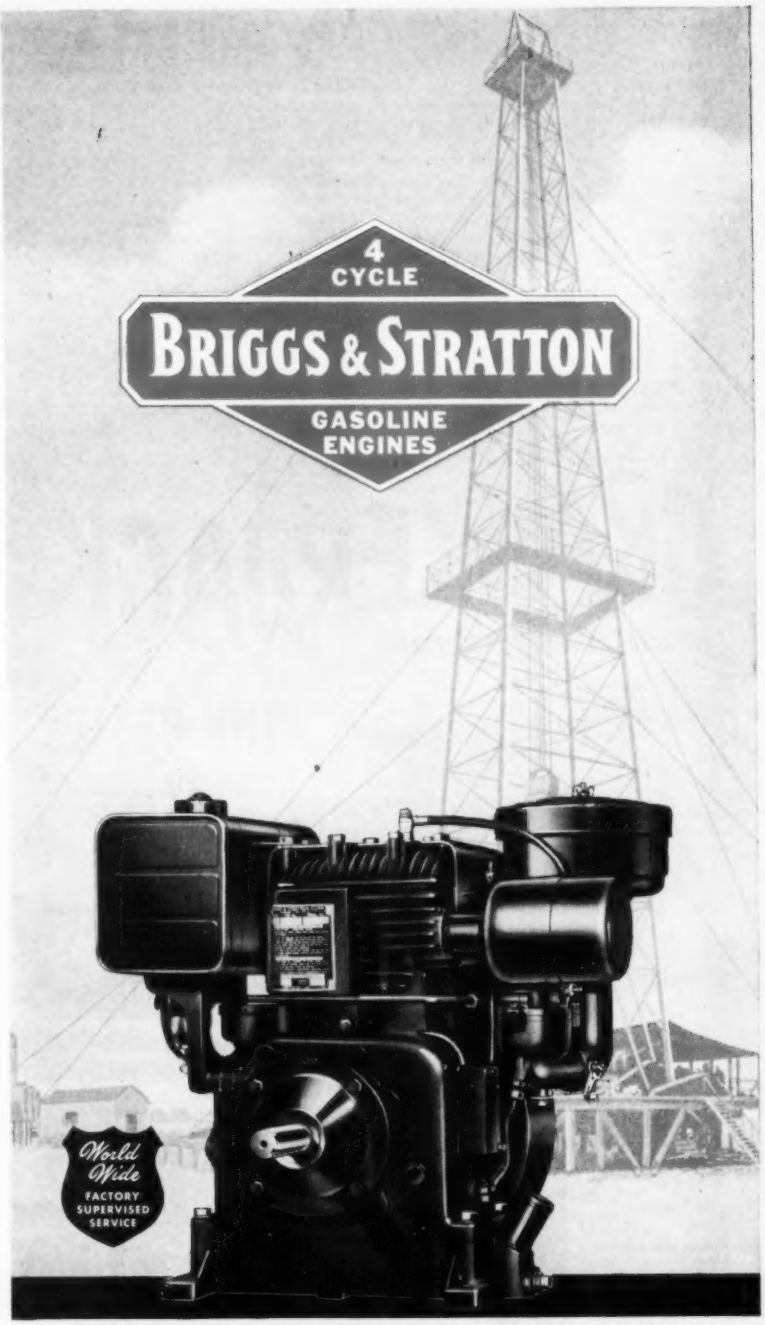
In the second act, Keith Mitchell was making torrid love to American actress Jessie Royce Landis when the sprinkler again lost its head—and all control of itself. Water drenched the two players and sprayed into the orchestra pit.

This time they cut the sprinklers off at the main. But the show went on. They oughta equip actors with firemen's turnouts, said an American doughfoot in the audience.

* * *

Fire Alarm Takes Detour

From Missoula, Mont., comes the report that Forest Service officials were



Preferred power on booster and portable pumps, lighting plants, portable power tools of wide variety for oil-field service — the world's most widely used single-cylinder, gasoline engines on equipment used by industry, construction, railroads, and on farms and in farm homes.

BRIGGS & STRATTON engines have, by far, more air-cooled power experience built into them than any other single-cylinder, 4-cycle, air-cooled engines — more than 30 years of continuous production. Briggs & Stratton Corporation, Milwaukee 1, Wisconsin, U. S. A.

In the automotive field Briggs & Stratton is the recognized leader and world's largest producer of locks, keys and related equipment.

puzzled when they received report of a forest fire at Lolo Hot Springs. The report came from Huntley, 400 miles across the state of Montana.

They made sure the fire was under control, then investigated the "alarm" to learn that it came from two Missouri radio amateurs who had gone into the mountains to test portable radio equipment. The hams spotted the blaze, but could not contact the Forest Service. So they broadcast their report. It was heard in Huntley by another radio ham, who in turn relayed the information to the Forest Service.

* * *

From the World News Ticker

About 20,000 tires and tubes were destroyed January 4, last, in a fire in the French-owned Michelin Tire Company's store in Norwich, Eng. . . . It took 14 years for Madame Aw Bee, 64, of Singapore, to save $20. It took her less than an hour to lose it, when fire destroyed a slum dwelling, housing more than a score of Chinese and Malays. . . . Canadian officials clamped a security ban on information about a fire that wrecked a hangar and an unknown number of planes at Canada's largest Air Force establishment at Trenton, Ont. The fire, causing damage estimated at almost $1 million, occurred late on January 2. . . . Reports on January 15 said 31 persons were killed and 81 injured in a gunpowder explosion at Sabarimalai, a Hindu hill shrine about 110 miles from Trivandrum, India, the day before. The explosion was said to have been caused by a "misfired firecracker which fell on a shed used for storing gunpowder." . . . The "Big Inch" natural gas pipe line exploded January 15, beneath a shallow creek near Oakland City, Ind., injuring two workmen on a railroad nearby, and setting fire to a caboose, water tank and bridge. Blast occurred in the 24-inch pipe line which carries gas from Texas to New York. A 20-inch "Little Inch" pipe line running parallel did not break. . . . The Port of New York Authority has banned transportation of explosives over four bridges and their New York and New Jersey approaches unless permission has been obtained two hours in advance from the bridge superintendent. The authority has never permitted explosives to be transported through the Holland and Lincoln tunnels. . . . A railroad trestle caught fire and burned the night of December 30th, last, near New Orleans, an hour before a crack train loaded with Sugar Bowl visitors was due to go over it. Train was re-routed. . . . A mysterious, unexplained explosion flooded San Diego police and fire alarm offices with inquiries on January 5. Shock was severe enough to register on a seismograph. The Point Loma area near San Diego was especially jolted. . . . In London, Eng., fire in an underground electrical transformer touched off eight gas explosions on December 28, last. Two persons were injured when 25 feet of pavement blew up. . . . A fireman was electrocuted by falling wires during a three-hour fire that left 2,000 people homeless in a Manila, P.I., suburb, January 3, last. Twenty people suffered burns. Damage estimated at $200,000. . . . Fire virtually destroyed the entire downtown section of Copiapo, Chilean mining center of 30,000 inhabitants, causing damage reported at more than $1 million. Sixteen of the largest commercial buildings were destroyed by the fire, others were dynamited to prevent spread of flames. . . . One workman was killed, another critically injured, December 30, last, when an explosion shook the Wabash River Ordinance Works, part of which is leased by the A.T.C. The blast, of unknown cause, occurred in a nitrator house. . . . A series of fires apparently set by anti-Communist guerrillas, have destroyed a large number of State grain elevators and the homes of Communist officials in Kwangtung Province, So. China, it was reported on Christmas Day. . . . At Port Alberni, B. C., firemen battled a fire for two hours in the propeller tunnel of the 5,405-ton British freighter Pardo. . . . Fire in the 7,607-ton American freighter San Angelo Victory at Bremerhaven, Germany, on the night of December 27, 1951, destroyed a considerable quantity of supplies for U. S. troops in Germany, and civilian goods consigned to Germans. German fire fighters and American soldiers controlled the fire after an all-night battle. . . . Three bulldozers reportedly saved the community of Sept Isles, Que., from destruction by fire. With water supplies frozen over, the 'dozers smashed the flammable buildings from the fire's path and threw up snowbanks to twice starve out the flames. Damage was estimated at more than $1 million, being confined to the business district of the little port town, jump-off to Canada's huge Ungava iron ore deposits. . . . In the village of Mayaguez, near San Juan, P. R., five youngsters from five to eight year old, who found a roll of movie film on the street, went into a backyard to play "movies" using a candle for a projection light. The film caught fire. Two children were burned to death. . . . Communist

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". . . the noticeably better performance of American Fire Hose is the result of skillful, painstaking manufacture. American does not compromise with quality — as a result critical buyers eventually standardize on American.

LAMINATED CONSTRUCTION
5 . . . calendered sheets

FLEXIBLE . . . balanced weave and premium yarn assure greatest strength and flexibility.

SMOOTH WATERWAY . . . lowest possible friction loss.

DEPENDABLE . . . unsurpassed for ruggedness and long life.

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Write for name and address of your nearest American Distributor

Party dues books, found hidden in a wall of a house by Philadelphia firemen, during forcible entry in the course of getting at a blaze between two houses, were turned over to the F.B.I. for investigation. . . . On January 3, 1952, fifteen persons were burned to death and twenty others injured seriously in the crash of a bus and a street car in Salvador, state capital of Baia, Brazil.

Obituaries

Former Chief Livingston

William L. Livingston, 54, of Tarrytown, N. Y., died suddenly on Feb. 11, 1952. He was formerly Chief of the Tarrytown Fire Department, and served several terms as president of the Fire Chiefs Emergency Plan of Westchester County. Although in later years local civic and political matters occupied most of his time, he maintained his active interest in the Village and County fire services to the end.

Chief Livingston served as Village Mayor and Fire Commissioner, as well as in other capacities. During World War II he was County Fire Coordinator and active in County and Village civil defense.

Retired Deputy Chief Speh

Charles H. Speh, whose retirement from the Stamford, Conn., Fire Department as deputy chief in October of last year was mentioned in the January issue, died Jan. 30th. He became a regular fireman in March, 1907, was named captain in 1922, and deputy chief in 1944. In July, 1949, he was appointed Fire Marshal for the Stamford area.

He was a member of the New England Association of Fire Chiefs, the Fairfield County Fire Chiefs' Association, and an honorary member of the Glenbrook and the Long Ridge Fire Departments, all in Connecticut.

Chief Michael Lawton

Michael W. Lawton, 77, former Chief of the Middletown, Conn., Fire Department, died Feb. 12 at his home. Services, which were attended by prominent Connecticut fire chiefs and local officials, were held February 15th.

Chief Lawton joined the department as a volunteer in 1904 and was made a regular fireman three years later. He was appointed deputy chief in 1928 and advanced to chief in 1930, in which capacity he served until 1943, when he was appointed State Fire Coordinator.

The former chief was past-president of the Connecticut State Fire Chiefs' Association; past-president of the New England Association of Fire Chiefs, and first president of the Middlesex County Fire Chiefs' Association. He was a life member of the International Association of Fire Chiefs and New England Association of Fire Chiefs. In addition, he was honorary commissioner of the Burrville Fire Department, Torrington; honorary member of the Stevens Heights Fire Company, West Haven, and honorary member of the Hartford County Fire Chiefs' Association. He was also a member of the Massachusetts Fire Chiefs'

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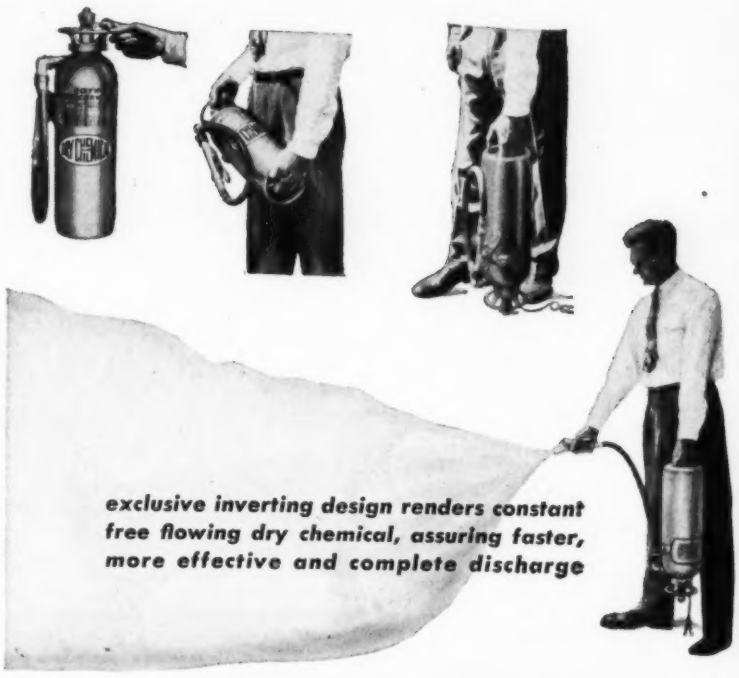
exclusive inverting design renders constant free flowing dry chemical, assuring faster, more effective and complete discharge

These fast, positive fire killers are easy to operate, compact, well-balanced and offer extensive maneuverability indoors or outdoors . . . no extra gadgets protruding or complicated operating parts. The outstanding mechanical breakage feature of C-O-TWO Dry Chemical Type Fire Extinguishers, plus continuous inert gas pressured agitation or fluffing, together with a skillfully blended free flowing dry chemical, guarantee lasting, foolproof fire protection. All sizes are rechargeable on-the-scene by anyone . . . no special tools required.

C-O-TWO Dry Chemical is a finely pulverized powder . . . non-conducting, non-corrosive, non-abrasive, non-freezing and non-toxic . . . special compound consists of sodium bicarbonate and other chemicals skillfully blended to render high fire extinguishing qualities, remain free flowing while being used and withstand long periods of storage without deterioration. When brought into contact with fire, C-O-TWO Dry Chemical absorbs a greater part of the heat, decomposes and releases fire killing gases. This heat absorption process acts as an insulating screen between the fire and the fire fighter.

Fully approved and built to rigid specifications . . . C-O-TWO Dry Chemical Type Fire Extinguishers are exceedingly effective on flammable liquid, gas and electrical fires, as well as surface fires involving ordinary combustible materials . . . rated by Underwriters' Laboratories, Inc. and Factory Mutual Laboratories for class B and C fires.

Convenient 4, 20 and 30 pound hand sizes . . . no syphon tubes or valves within the cylinder to become clogged or inoperative . . . discharge hose and squeeze type discharge nozzle remain empty until actuation takes place . . . one piece removable top assembly.

Also, convenient 150 pound wheeled size . . . sturdy, wide-faced wheels . . . discharge hose and two position discharge nozzle having soft or solid stream fully enclosed in protection casing . . . footrail and dual bar handle provide easy inverting.

Act now for complete free information on these top quality fire extinguishers. Remember . . . you can't put fire off . . . fire doesn't wait. Get all the pertinent facts . . . write today!

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Squeez-Grip Carbon Dioxide Type Fire Extinguishers • Dry Chemical Type Fire Extinguishers
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Can Be Used Intermittently
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BAR-WAY HOSE COUPLINGS
FOR BOOSTER and HIGH PRESSURE FOG LINES

REMOUNTABLE — without the purchase of additional parts; use over and over again
FULL FLOW — no suppression of flow in coupling
HIGH PRESSURE — tested to 3000 lb., 500 lb. pull
INTERNAL EXPANSION — no shrinkage of hose at coupling
STREAMLINED — free from objectionable projections
ACCURATELY MACHINED — always the same . . . interchangeable

For maximum efficiency, economy and protection in ¾" and 1" sizes, specify Bar-Way couplings attached to hose of proper size.

WILL NOT FAIL

BAR-WAY MFG. CO.
STAMFORD, CONN.
West Coast Representative
W. D. Rigdon
383 Brannan St., San Francisco 7

Club and the Middlesex County Fire Chiefs Association.

He is survived by his wife, a son, several nieces and nephews and two grand-children.

Wisconsin Loses Two Retired Chiefs

The Wisconsin State Fire Chiefs Association has reported the death of two of its retired fire chiefs.

Ex-chief Henry Esler of Kaukauna, Wis., died January 24th, 1952, aged 73. He became a volunteer fireman in 1896 and a full-time member of the department in 1922. He was Chief for 15 years preceeding his retirement in 1949. Services were held January 28th in Kaukauna.

Ex-chief E. T. Ross, of Baraboo, Wis., died January 27, 1952. Services were held Jan. 29th in Baraboo.

F. E. Taft, of Seagrave

Frank E. Taft, former New England representative of the Seagrave Corporation, who retired from active duty with the organization several years, ago died recently. Mr. Taft, who was 83 at the time of his death, had his home in East Wareham, Mass. He managed the Seagrave New England Branch Office for more than 20 years.

Gillece, National Board Arson Expert

Joseph F. Gillece, 60, a special arson agent with the National Board of Fire Underwriters for thirty-two years, died February 1, in New York Hospital.

The first special agent to enter the National Board's Arson Dept. in 1920, Mr. Gillece's work took him to various parts of the country, but he was chiefly concerned with the investigation and prosecution of arson cases in New Jersey and the Metropolitan area. Besides training other agents in arson detection he lectured on the subject among law enforcement agencies.

Before joining the National Board he was with the New York State Police.

Ex-Chief C. E. Lane

The Orange, Mass., Fire Department lost two of its stalwarts recently with the death of former chief Charles E. Lane and Lieutenant Luther W. Horton.

Chief Lane, who held what many believe to be the national service record for active fire chiefs fifty years as head of the Orange Department, and who was a member of the department for 58 years, died suddenly on Dec. 1, 1951, at his home in Orange, at the age of 76.

Upon his retirement in 1949, the chief was accorded a public reception, a special souvenir booklet being published in his honor. Chief Lane was not only associated with the local fire department but since 1919 he served as a member of the Orange water commissioners. He was at one time its superintendent.

He became a fireman at age 16, serving in sequence as stoker, private, assistant chief and, since 1899, as chief, succeeding the late Chester A. Hinds. He was a member of the International Association of Fire Chiefs, the Massachusetts Fire Chiefs Club and other organizations. He served also as secretary and president of the Firemen's Relief Association.

Lieutenant Horton, who had served as pallbearer at Chief Lane's funeral only the day before he was killed in Orange while hunting deer with Capt. Jack Dempsey of the Malden, Mass., Fire Department. Lieut. Horton, who was 57, was shot accidentally by a hunter. He was a member of the department for 30 years and a permanent fireman for 25 years. His father and also his grandfather both had been firemen before him. He was a member of the Worcester West Forest Wardens Association, as was ex-chief Lane.

Thanks PAUL H. WOODWARD

News of the Manufacturers

Burke, Rock Island Chief, Joins Fire Fighter Co.

Joseph W. Burke, widely known fire chief of the Rock Island, Ill. Fire Department, has retired and has been appointed sales manager of the Fire Fighter Truck Company, 3148 Fifth avenue, Rock Island.

Joseph W. Burke

The company manufactures fire trucks and has been a distributor of fire hose manufactured by The B. F. Goodrich Company, with Illinois and Iowa territories, since 1946.

Chief Burke joined the Rock Island fire department July 10, 1925. He was promoted to lieutenant May 1, 1941, and to captain a month later. Appointed first assistant fire chief on May 1, 1944, he became acting chief of the department March 10, 1949, and was made chief the following April.

Chief Burke was elected to the executive Committee of the Illinois Fire Chiefs association for a four year term in 1951, but will resign that post October, 1952, because of his retirement.

Elkhart Brass Appointments

Elkhart Brass Mfg. Co., Inc., announces the appointment of R. V. Voelkert as Sales Manager. "Dick," as he is known to his fire department friends, began his career in the fire protection and fire department supply field in August, 1935. After occupying various positions in the company for nearly three years, he was transferred in 1938 to the Sales Department, specializing in the Inside Fire Protection Division. A promotion in 1943 to Assistant Sales Manager added to his responsibilities those of other divisions of sales.

In 1946 Mr. Voelkert was elected Assistant Secretary of the Company and, in 1950, named Secretary, which office he still holds.

J. C. Sellers, better known as "Joe,"

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Scott Air-Pak

(TRADE MARK)

because fire in any unventilated area consumes the oxygen in the atmosphere and produces deadly, invisible gases. ONLY self-contained breathing equipment provides safety in such oxygen-deficient areas. SCOTT AIR-PAK supplies cool fresh air for breathing freedom and protects the eyes from irritating smoke. There's no fogging of lenses to restrict your work inside a burning building. SCOTT helps you fight fires faster . . . safer.

That's why thousands of Fire Departments are using SCOTT AIR-PAKS . . . You're safe when you're wearing a SCOTT.

Your Scott Distributor will gladly give you a FREE DEMONSTRATION.

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. . . for full details on Scott Air-Pak Safety Breathing Equipment in Bulletin 510.

Scott Air-Pak (above)—½ hour minimum duration at extreme exertion. Weight as worn 29½ lbs.

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Can Anyone "Steer" Your Resuscitator?

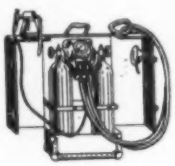
In case of an emergency, anyone in your department can pitch in and drive your fire truck.

But what about your resuscitator? Can anyone in your department use it to save a life? The operating panel of the Stephenson Resuscitator is so simple it is self-explanatory.

Then too, the American Medical Association, when officially accepting the Stephenson Resuscitator, reported that "it could be used effectively by the experienced layman in live-saving work."

We consider that to be one of the most important reasons for equipping your department with a Stephenson Resuscitator. You should know about this dramatic, modern life-saving machine!

Please permit us to demonstrate the Stephenson Resuscitator to you. . . . Write us today!



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"TRUMPET" HYDRAULIC TEST PUMPS

Ideal for testing hose lines of all sizes and length, directly from hydrants, without tying up costly fire apparatus. Equally efficient for checking high pressure air lines, sprinkler systems, boilers and pressure gauges. Adapter available for testing Soda & Acid and foam type extinguishers. Has 400 lb. capacity.

Easy to use — accurate — built for long dependable service. See your Wooster Brass representative or write direct.

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THE WOOSTER BRASS CO.
WOOSTER OHIO

MANUFACTURERS OF A COMPLETE LINE OF DISTINCTIVE FIRE FIGHTING EQUIPMENT

another stalwart of the Company, has been named Assistant Sales Manager. He began his career with Elkhart in 1934, serving from that time to 1942 in nearly every department of the organization. From 1942 to 1946 he was in the U. S. Infantry, overseas. Upon his return, he was located in the General Offices. Beginning in 1945 and until the present he has been connected with the Sales Department.

Kidde Announces New Portable Five-Pound Dry Chemical

A new, pressure-operated, dry chemical portable fire extinguisher is announced by Walter Kidde & Company, Inc., to answer the need for a small, dry chemical unit which can be recharged easily in the field. It is available nationally through Kidde distributors.

Kidde dry chemical extinguisher.

Its design permits the new device to be serviced following discharge by simply pouring five pounds of dry chemical into the powder chamber and, with the aid of a gas station or factory air line, charging the unit with 150 pounds of compressed air. The nozzle discharges a cloud-like pattern, effective for extinguishing Class B and Class C fires.

The 5-pound dry chemical features trigger-type finger control; and a quick-release type wall bracket latch; and gauge which shows the exact pressure carried by the extinguisher.

The portable weighs ten pounds fully loaded, stands fifteen inches high, and is four-and-one-half inches in diameter.

Fenwal Issues Catalog on Thermal Controls

Fenwal, Inc., of Ashland, Mass., has issued Catalog No. 400, covering the Fenwal line of thermoswitch thermal controls. The 50-page-and-cover catalog is profusely illustrated with pictures and diagrams bearing upon the application of the company's products to heat control problems.

The book should find a welcome place in every fire department.

New Fog Nozzle for Small Hose

A new nozzle, known as The Fogg-It "Triple Jet" Safety Nozzle has been introduced by Fogg-It Sales Co., P.O. Box 1985, Modesto, Calif., for use on ¾-in. hose.

The almost universal use of small hose in fire departments, industrial

plants as well as homes throughout the country offers wide opportunity for an efficient nozzle that will deliver a good fire fighting fog. The new device is said to be engineered for such purpose. The manufacturers claim it will deliver a very fine pattern of fog even on low pressure water systems. It has particular appeal where such nozzles are desired for operation on fixed installations and in areas where there is danger of heavy water damage, because the "Triple Jet" delivers only approximately 2½ gallons of water per minute at 50 P.S.I.

The nozzle is machined from heavy brass.

General Introduces New Pressure Fire Extinguisher

A non-inverting, pressurized, water-type extinguisher has been introduced by The General Pacific and General Detroit Corporation.

New General Detroit extinguisher.

The General Quick Aid Fire Guard, as it is called, is designed for use in all types of buildings and recommended for out-of-door applications with anti-freeze charge, where temperatures require. It has a squeeze-grip, or lever action, control with panic-proof, rip-puncture pin to insure discharge once the seal is punctured, regardless of the position of the handle.

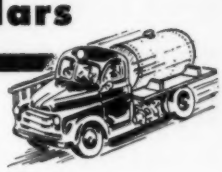
The shell is seamless drawn brass. All component parts are also of brass. As a special charging feature all parts are removable as a single unit. The charge consists of plain water and a pressurized carbon dioxide cartridge. The new extinguisher is Underwriters' Approved.

New Color Fire Fighting Film

"Not Too Hot To Handle," a new, 18-minute, color, sound film has just been released by Walter Kidde & Company, Inc. The picture demonstrates approved fire extinguishing equipment and procedures for Class A, B, and C fires.

During the film, professional technicians use all recognized types of portable extinguishers to extinguish wood, flammable liquid, and electrical blazes in approved manner. Among the agents

Build your own fire truck for a few hundred dollars



The time has come when rural fire protection should leave the "Fancy Dan" class so that every small community can do a real down-to-earth job of extinguishing fires rapidly, simply and inexpensively.

The nickel plate, red paint, gadgets and polish are good if you can afford them. But all you need for sound, economical fire protection is an Oberdorfer All Bronze Pump hooked up to the transmission of a dependable truck that carries a tank of water loaded with a good wetting agent.

Effective fire control starts just as soon as this outfit can reach its destination and a man can grab the nozzle end of the booster hose and get to the fire. The resulting penetrating stream of over 125 lbs. pressure is the fastest and most important phase of fire fighting.

Do you have a garage, a truck and a mechanic with a little common sense? We have the pump you need. Write for details.

PERFORMANCE DATA—No. 26 PUMP SHOWN ABOVE

Pump Shaft R.P.M.	Pounds Pressure	Hose Length and Size	Dry Suction Lift in Feet	Vol. in Gal. Per Minute
1600	120	500'—1½"	15'	150

For complete specifications of this and other Oberdorfer All Bronze Booster Pumps, and name of your nearest distributor, write:

FIRE PUMP DIVISION OBERDORFER FOUNDRIES, INC., Syracuse, N.Y.

RAY-LINE

NEW 3-WAY PORTABLE SEARCHLIGHT—FLOODLIGHT AND FLASHING RED WARNING LIGHT

As a warning light, the powerful **RED RAY** really stops traffic. . . . A positive safety measure that protects crews and apparatus either day or night.

Write Dept. No. 27 for catalog

THE PORTABLE LIGHT CO., Inc.

216 William St. New York 38, N. Y.

AT THE HEAD OF YOUR LINE . . .

you need a good LEADER . . . .

HART SHUT-OFF NOZZLE THREADED TO SUIT

A leader in more ways than one. It has a long and time-honored reputation for long, dependable, rugged service.

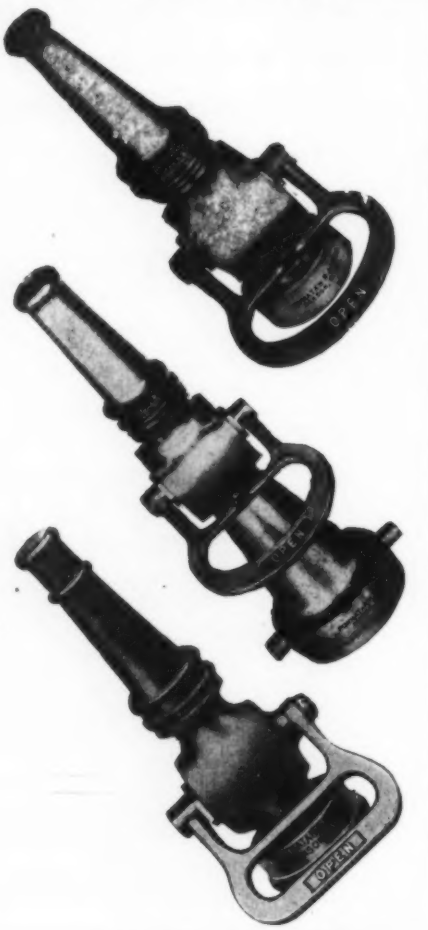
NEW YORK FIRE DEPT. STYLE SHUT-OFF NOZZLE WITH PLAIN TIP

This dependable Shut-Off Leader comes in the 2½" size. It is built to stand up and function perfectly under the most rugged treatment. The Fire Service has learned to depend on this nozzle for more than 50 years.

SACHEM LEADER LINE SHUT-OFF NOZZLE

Comes in 1½" size for hose connections. Tip and chemical thread. The Sachem Leader line shut-off nozzle has earned an enviable record. It is truly a leader. It is one shut-off nozzle you can order and be assured you are getting your money's worth.

Investigate Powhatan's famous line of Brass Fire Fighting Equipment.



POWHATAN BRASS and IRON WORKS
RANSON, WEST VIRGINIA
Phones 93 & 94 Charles Town, West Virginia
Established 1892

HALE Type FZZ

Fine for Relaying to Major Pumper

The Hale Type FZZ portable fire pumping unit pictured at right can be easily carried by two men to source of water which truck cannot reach, for refilling booster tank or for fighting fire direct. Unit is also available mounted on two truck-type wheels or on rubber-cushioned steel channels.

Capacity of FZZ is 60 G.P.M. at 90 lbs. pressure; 150 G.P.M. at 30 lbs. pressure. Provides two capable fire streams through 1½-inch hose lines, using ½-inch nozzles.

Note: Discharge Adapter can be supplied for use with 2½-inch fire hose.

Ask for Demonstration; No Obligation

Write Today for FZZ Folder to:

HALE FIRE PUMP COMPANY
CONSHOHOCKEN, PA.

FIRE PUMPS IN ALL STANDARD CAPACITIES

demonstrated are water, soda acid, carbon dioxide, dry chemical, foam, and vaporizing liquid.

The new film is available nationally through any of Kidde's six district offices (Chicago, Detroit, Philadelphia, Dallas, Atlanta, Los Angeles), or upon request to any Kidde distributor.

Persons in the News

Hink Heads Fire Fighting in Philadelphia

George Edward Hink was appointed Deputy Commissioner for Fire Fighting in the City of Philadelphia, Pa., by Fire Commissioner McNamee of that city, on February 26th, last. The post is equivalent to fire chief and places the new deputy commissioner in command of all fire forces and operations.

The new incumbent is a "fireman's fireman." At the time of his appointment, he was in command of the 6th Division of the Bureau of Fire, located at Engine 25, Hagert and Jasper streets.

Hink was made a fireman 31 years ago. He became lieutenant in 1927 and in 1931 was promoted to captain. In 1940 he was advanced to battalion chief and two years later was named acting deputy chief.

The new head of fire fighting will take over many of the duties of Chief Engineer John C. Cost, who left the Bureau of Fire on March 1, because he is past the retirement age of 65. Commissioner Hink will be located at Fire Headquarters, Juniper and Race streets.

Simon Heads Massillon Department

Donald E. Simon has been appointed Chief of the Massillon, Ohio, Fire Department to succeed Raymond E. Earle, who resigned last October to join a Maumee, Ohio, manufacturing concern, after serving nine years as head of the organization.

The new Chief joined the department in 1940 and was promoted to captain in 1946. He has served as drillmaster for the past four years and secretary of the Pension Fund for the last five years.

The vacancy caused by the promotion of Chief Simon has been filled by the promotion of Charles W. Stranger to Captain.

Hart Heads Portsmouth Fire Force

Howard S. Hart took over as Acting Chief of the Portsmouth, Va., Fire Department, on February 13, last. He was appointed to fill the vacancy created by the death on February 11 of Fire Chief William Benthall Sykes, who passed away suddenly after heading the department since 1938. The appointment is announced as probationary for six months, at the end of which time the title "acting" will be dropped.

In accepting the post, Hart paid tribute to Chief Sykes, whose sudden death shocked the city and fire department alike. It is disclosed that, last summer, efforts had been made to induce the 67-year-old Chief to retire, but he refused.

The new chief became a member of the Portsmouth Fire Department in September 1929, and in January, 1937, he was promoted to the rank of engineer. He was made captain in July, 1941, and on October 1, 1951, was advanced to assistant chief in charge of "running"—a post which carried him to all fires.

Strathearn Chief in Paterson

Hobart Strathearn was named as permanent Chief of the Paterson, N. J., Fire Department by the City's Fire and Police Board on February 13, last, to fill the vacancy left by the late Chief James J. Troy. Since the latter's death last January, the new Chief has been serving as temporary head of the department.

The new Chief was born in Paterson 53 years ago. He has seen active service in the department since 1922. For the last 22 years he has served in the capacities of captain, battalion chief and acting-chief. In the examination for chief, he had the unprecedented score of 100 per cent. In none of his previous examinations did he finish with less than 94.

The Chief is a veteran of World War I, having enlisted at 17. In his younger days he was an outstanding athlete. His fire service record through the years has been outstanding, and his appointment is widely hailed both in Paterson, and throughout the State, where he is widely known.

Oscar Grab, New Rochelle Chief, Retires—Succeeded by Rumery

Oscar A. Grab, colorful, dynamic head of the New Rochelle, N. Y., Fire Department, since October, 1933, and a member of the department for 41 years, retired February 6th at the age of 62, at his own request. His last official order was to promote four men to fill posts made possible by his retirement.

Outgoing New Rochelle Chief Oscar Grab (right) congratulates his successor, Chief Raymond Rumery.

Chief Grab served 9 years as a volunteer, rising to the rank of first lieutenant, before accepting the post of Deputy Chief of the paid department, in 1920. In 1933 he was tendered a banquet by 600 well-wishers upon his promotion to Chief at which time he was presented an automobile.

Under Chief Grab's direction, the New Rochelle Fire Department has been modernized and improved to rank among the top organizations of the State.

Chief Grab was one of the organizers and promoters of Westchester County's Fire Chiefs Emergency Plan, known the

National Foam Installations Assure Fast, Positive Action

Have you "fire checked" your plant lately? You may now have a greater flammable liquid fire risk than ever before. If gasoline, alcohols, acetone, or mixed polar solvents are stored and used in your plant, complete automatic foam protection should be provided.

Let National Foam engineers study your plant hazards, then recommend "Engineered Foam Fire Protection." If your problem involves technical research, National Foam chemists are well-equipped to develop an answer.

Based upon years of experience in helping leading industries with fire protection problems, National Foam specialists will recommend mechanical or chemical foams, and proper foam making devices to meet your specific requirements.

Consult your nearest National Foam Distributor, or write direct about your problem.

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FOAM SYSTEM, INC.
Headquarters for Foam Fire Protection
WEST CHESTER, PENNA.

YOU CAN BE *Sure*
WHEN YOU USE
Shuredry

. . . Yes, sure that you're getting a salvage cover that is lighter, easier to handle — extra pliable so that it can be spread more quickly. And, Shuredry Salvage Covers are pressure impregnated with the exclusive Fulton dry treatment — top every test for water penetration and seepage! They're approved by National Board of Fire Underwriters and by Factory Mutual Laboratories. You're SURE to reduce fire losses with SHUREDRY Salvage Covers.

SEE YOUR FIRE EQUIPMENT DEALER

Fulton BAG & COTTON MILLS
Atlanta • St. Louis • Dallas • Denver • Minneapolis • New Orleans
Kansas City, Kans. • Los Angeles • New York City • Winter Haven, Fla.

OREN
CUSTOM-BUILT
FIRE APPARATUS

MULTI-STAGE
CENTRIFUGAL
PUMPS
•
HIGH OUTPUT
ENGINES

OREN ROANOKE CORP.
ROANOKE 16, VIRGINIA

nation over as a leading mutual aid organization. He has served on numerous state and county fire service committees and has been active in promoting New Rochelle civic enterprises.

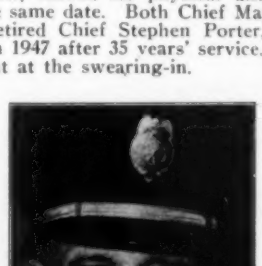
An overflow throng of 350 friends and associates tendered the retiring chief a testimonial banquet on February 7th at Wykagyl Country Club, New Rochelle, at the same time officially welcoming Chief Grab's successor, Raymond C. Rumery. At this banquet Peter J. Mayers, superintendent of recreation, the main speaker, presented Chief Grab with a wallet containing $1,000 as a token of appreciation of his untiring service. Members of the State and County fire service were present to honor the retiring officer.

Chief Rumery received his probationary appointment to the fire department in December, 1920. He was made a fireman in 1921, and promoted to lieutenant in 1931, to captain in 1944 and to battalion chief in 1949. The new chief topped the list of candidates who took the examination for chief.

Advanced to fill vacancies left by Chief Grab's retirement were Captain Walter R. Bell, promoted to battalion chief; Lieutenant Charles A. Roehrig, advanced to captain and Fireman George Werenskjold, moved up to Lieutenant.

Sutton Heads District Forces

Deputy Fire Chief Millard H. Sutton, 55, was sworn in as Chief of the District of Columbia Fire Department on Feb. 1 before more than 100 city officials and well wishers. He succeeds Chief J. A. Mayhew, retired for physical disability on the same date. Both Chief Mayhew, and retired Chief Stephen Porter, who quit in 1947 after 35 years' service, were present at the swearing-in.



Millard H. Sutton

The new Chief became a member of Engine 13 and rose steadily through the ranks. He was made Sergeant in 1924, Lieutenant in 1930, Captain in 1932, Battalion Chief in 1942 and Deputy Chief in 1949.

Except for a year's leave to serve in the infantry during World War I, Chief Sutton has fought every major fire in the District. He is regarded as a "fireman's fireman" and popular within the department—and out of it.

Chief Sutton was one of seven men considered for the job and was reportedly the unanimous selection of all District

Commissioners. His advancement creates vacancies which the new chief reported he would fill on the basis of seniority. This would mean promoting Battalion Chief Joseph W. Kay to Sutton's old post, and Captain Andrew Wright to Battalion Chief.

Barron Niagara Falls New Chief

Niagara Falls, N. Y., has a new chief in the person of John R. Barron, following the retirement of Chief James O'Neill on February 1, 1952.

Chief Barron has been a member of the department for 30 years, and moves to his new post from that of deputy chief.

Chief's Son Becomes Chief

Francis I. Remley of Moorhead, Minn., has been appointed Chief of the Moorhead Fire Department. He replaced Carrol E. Malvey, who had been acting chief, since the death last August of Remley's father, Chief N. B. Remley. Chief Malvey has resigned to devote his time to his service station.

The new chief has been a Moorhead fireman for 23 years—20 of them as a volunteer. He is 43, a native of Moorhead, married and the father of five children.

Chief Meinheit Stricken

Fire Chief William A. Meinheit, since 1914 a member of the Berkeley, Calif., Fire Department, and since 1941 the head of that department, was stricken at his home the week end of Feb. 16, and hospitalized. At this writing the extent of his illness is not known.

Chief Meinheit is one of the most popular fire officers on the Pacific Coast. He is a member of the California State Fire Advisory Board, the California Fire Chiefs' Association, the Pacific Coast-Intermountain Division of the IAFC, and he has played an active part in the operations of the International Association of Fire Chiefs.

Eastern Fire Chiefs Plan Outstanding Program

Under the joint chairmanship of Roi B. Woolley and Fred Shepperd, the program committee for the coming convention of the Eastern Association of Fire Chiefs, to be held at Reading, Pa., on June 2-4, is planning an outstanding program.

Novel features will be reviews of fire catastrophes which have occurred in the states constituting the Eastern district during the past year, symposiums on problems currently facing the fire service and addresses by leaders in the field of industrial fire protection.

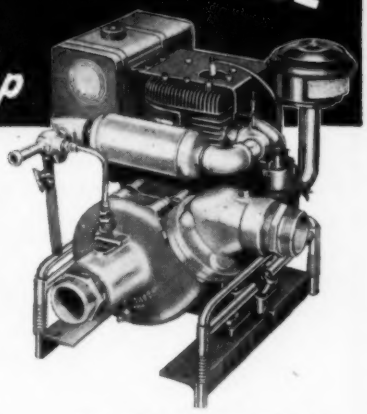
It is anticipated that this year's program will be the finest ever set up by the Eastern Association.

The exhibit feature, from present indications, will also set a new record.

Chief Arthur Bilby, Chief of Fire Department, Montclair, N. J., is Chairman of Exhibits.

Chief J. A. Giammatteo, Glen Echo, Md., Fire Department is Acting Secretary of the Eastern Association. He is connected with the Federal Communications Commission, Washington, D. C., in civil life.

FOR BETTER FIRE DEFENSE
The DUAL Fire Fighter pump



DUAL FIRE FIGHTER PUMP
MODEL 6201

Fire departments everywhere are enthusiastic in their praise of the **"Dual Fire Fighter"** pump. It has, on numerous occasions, saved property from costly fire damage, bringing fires quickly under control in isolated localities where large truck pumpers could not reach the source of water.

The **"Dual Fire Fighter"** is especially designed for fire fighting equipment. It is used **to relay water** to the truck pumper or it will **fight fires direct.** Mounted on a truck or trailer it is an effective piece of fire fighting equipment for rural volunteer fire departments.

- **As a booster pump** it will deliver 175 g.p.m. through 300 ft. of 2½ in. hose to the top of a hill 50 ft. high.
- **For fighting fire direct** it will throw 100 g.p.m. at 80 lbs. or 80 g.p.m. at 88 lbs. pressure -- Capacity sufficient to supply two 1½ in. lines.
- **It primes in 15 to 30 seconds.** It weighs only 162 lbs. Equipped with carrying handles, easily carried by two men.

Quick action of the **Dual Fire Fighter** may assist you in saving costly fire losses.

Ask for Bulletin No. 9-FD-11

The "Dual Fire Fighter" requires very little space on the pumper. Pump is integral with 4 cycle, single cylinder, air cooled engine of 8¼ H.P. Every pump is factory tested before shipping.

THE GORMAN-RUPP COMPANY
MANSFIELD, OHIO

NEW FOGG-IT "Triple Jet" SAFETY NOZZLE
provides a blanket of fog for small hazardous fires

Scientifically engineered to deliver a fine pattern of protective fog, even on low pressure water systems. *Fits on* any ¾" garden hose. Safely smothers incipient fires in containers of paints, oils, chemicals, etc. Eliminates dangerous splash created by straight stream of water.

Excellent in fixed installations. Keeps water damage to minimum since it delivers only 2½ gallons of water at 50 psi.

Machined from solid brass and completely guaranteed.

Only $3.00 each. Send check or money order to

FOGG-IT SALES COMPANY
Dept. 7-A — P. O. Box 1985, Modesto, California

For VALUE...

Specify HALE

Why do users of Hale Fire Pumps specify "Hale Pump" when they buy new apparatus?

Because these men have learned through practical experience HALE VALUE in terms of:

• Dependability • Flexible Performance • Efficiency

For 36 years Hale-equipped Fire Pumpers have upheld a high standard of dependability . . . a dependability that has won the respect of users all over the world. Hale Fire Pumps are sold only through Manufacturers of quality apparatus.

HALE FIRE PUMPS are built in all STANDARD CAPACITIES

Write today for NEW FOLDERS on Hale Fire Pumps . . . built in all standard capacities.

HALE
FIRE PUMP COMPANY
CONSHOHOCKEN, PA.

Better Hose Care---

with CIRCUL-AIR

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THE AIR CONDITIONING
FIRE HOSE DRYER

Circul-Air is the patented, electrically operated hose dryer which circulates prewarmed fresh air through coiled wet hose at the rate of 5 to 6 air changes per minute. It's designed to lengthen hose life, improve the appearance and functional design of new fire houses, and to save floor space and hard work. NO OTHER DRYING METHOD IS SO FAST—SO ECONOMICAL—SO EASY TO USE.

ACCEPTED • APPROVED • RECOMMENDED

ACCEPTED as the standard drying medium in over 1500 fire departments — APPROVED by the leading testing laboratories — RECOMMENDED by fire hose manufacturers and Fire Chiefs "all over America."

PATENTED

If you are building, send for free copy of "Fire Station Design"

NEW HOSE DRYING MANUAL TELLS HOW TO DRY, STORE AND CONSERVE FIRE HOSE

May we send you one?

THE CIRCUL-AIR CORPORATION

575 East Milwaukee Detroit 2, Michigan

What's Burning

THE following list includes fires of $10,000 loss and over in the United States and Canada for the month of February, 1952.

Month Ending February 29, 1952

Somerton, Ariz.—Apache Bar and Brown's Clothing Co. destroyed. Lighted cigarette.
Barton, Ark.—Armco Canning Co. plt. destroyed.
Luxora, Ark.—Cotton gin of Rozelle Gin Co. destroyed.
Boyes Springs, Cal.—Sonoma Golf & Country Club clubhouse destroyed.
Danville, Cal.—Danville Whse. and Lumber Co. damaged.
Hanford, Cal.—Harps Corner Grocery on Redding and Dairy avenues, a mile west, damaged. Short circuit.
Hollywood, Cal.—Max Factor & Co. cosmetics whse., destroyed.
San Diego, Calif.—Central Library visual education center damaged.
Santa Ana, Cal.—Broadway Theatre, in Orange County, destroyed.
Santa Barbara, Cal.—West Coast Television Co.'s stock destroyed; adj. Bank's Typewriter Exchange office equipment damaged.
Denver, Colo.—Mountain States Mixed Feed Co. grain elevator destroyed. Short circuit.
Denver, Colo.—Contractors Heating & Supply, Inc., bldg. whse. and mfg. shop, destroyed.
Cheshire, Conn.—Waverly Inn destroyed.
Williamsville, Dela.—White Oak Hatchery damaged.
Yorklyn, Dela.—Dwelling of J. Warren Marshall, damaged.
Fernandina Beach, Fla.—Municipal Dock bldg., north portion occupied by Fernandina Lumber & Supply Co. and an adj. unit leased by John Ferguson, shrimper, damaged. Interior of south sections, occupied by Charles Bassetta & Son shrimp packing house was burned out.
Marianna, Fla.—Cafe, barber shop, W. D. Doughtie Jewelry Shop, Marianna Bakery and Nifty Pressing Shop destroyed; Superior Pressing Shop, Taylor Dry Goods store, McLane-Bell Food Store and Davis Prescription Pharmacy damaged.
Adel, Ga.—Cook County airport, three story bldg. of shops, offices, supply room, hangar and living quarters, destroyed. Twelve airplanes, including three crop dusters destroyed. Spark from welder's torch ignited chemical fabric compound.
Atlanta, Ga.—American Tire Co. plt. damaged. Loss included three trucks and a large inventory of new tires.
Covington, Ga.—Covington Tire and Rubber Co. plt. destroyed.
Harrisburg, Ill.—Bldg. housing a hardware store of E. J. Mark and three apts. destroyed.
Morris, Ill.—Hornsby 5 and 10 cent store chain whse. damaged.
Peoria, Ill.—Maple City Stampling Co. plt. destroyed.
Piper City, Ill.—Producers Seed Co. plt., a cooperative that handles hybrid and seed corn, damaged.
Crawfordville, Ind.—Montgomery Ward whse., Hillsdale Mfg. Co., Indiana Printing plt. destroyed.
Gary, Ind.—Wallgreen Drug store and Barnett Dress Shop destroyed.
Indianapolis, Ind.—U. S. Corrugated Fibre Box Co. plt. damaged. Discarded cigarette.
Madison, Ind.—Lichlyter Construction Co. destroyed. Coat hung over furnace.
Burlington, Ia.—Eisfeld bldg. housing Spurgeon store and Grosman store and office and adj. Circle Shop, destroyed.
Mount Pleasant, Ia.—First Methodist Church damaged.
Muscatine, Ia.—Bldg. housing Hotel Muscatine damaged.
Dayton, Ky.—Lincoln Elementary School damaged. Defective wiring.
Lexington, Ky.—Tobacco whse. owned by R. J. Reynolds Tobacco Co. destroyed.
Chesterville, Me.—Farm bldg., livestock and equip. of Wallace H. French, destroyed.
Baltimore, Md.—Old Baltimore Butchers' Packing Plant and abbatoir, destroyed.
Cambridge, Md.—St. Clair High School destroyed. Short circuit.
Cumberland, Md.—Bldg. occupied by Potomac Edison Electric Co. and Maurice's dept. store, destroyed. Bldg. occupied by Shinnamon's shoe store, damaged.
Elkton, Md.—Laboratory bldg. operated by Thiokol Corp., a mile north, destroyed.
Auburndale, Mass.—Bldg. housing LeBaron Hardware Co., Boulevard Pharmacy, Ethel Copper Dress Shop, Auburndale Cafe and Food, Inc., and Riggs Flower Shop damaged.

Boston, Mass.—Premier Packing Co., Inc., meat supplies, damaged.
Orleans, Mass.—Snow Public Library, State Route 28, destroyed.
Somerville, Mass.—Multiple dwelling 42 and 44 Broadway and 3 and 7 George Street, damaged. Burning rubbish.
South Asburnham, Mass.—Whitney Chair Mfg. Co. damaged.
Breckenridge, Mich.—Main elevator of Breckenridge Bean & Grain Co. destroyed.
Fenton, Mich.—Plt. No. 2 of Industrial Machine Tool Co. damaged.
Otsego, Mich.—Otsego Public School bldg. destroyed.
Wheaton, Minn.—The Peavey grain elevator damaged.
Laurel, Miss.—J. C. Penney store, Alex Loeb Dry Goods Co., Rose Slipper Shop, Jean Coffee Shop and Jean Theatre, damaged.
Desoto, Mo.—The Fourth Street Methodist Church destroyed.
Springfield, Mo.—Transmitting facilities of Radio Station KWTO damaged.
York, Neb.—Bldgs. housing Sterling shoe store, Barret & Monismith Clothing store, DeLuxe Cleaners and apts. destroyed; adj. Baer furniture store and Moomey grocery store damaged. Defective electric wiring.
Claremont, N. H.—Bergeron mercantile bldg. and apts. damaged.
Elizabeth, N. J.—Paper whse. leased by United Paper Stock Co., destroyed.
Little Silver, N. J.—Little Silver Cleaners & Dyers, Inc., destroyed.
Rahway, N. J.—Haley bldg. destroyed.
Vineland, N. J.—Pavilion at Rainbow Lake destroyed.
Gobernador, N. M.—Rig on General American Oil Co.'s Harrington No. 1 test well, eight miles south, destroyed.
Avoca, N. Y.—Potato storage whse. owned by H. L. Goodrich & Sons, a mile north, destroyed.
Bellmore, L. I., N. Y.—Meadowbrook Hardware Corp. destroyed.
Coxsackie, N. Y.—Christ Episcopal Church and its parish hall and rectory, destroyed.
Farmingdale, L. I., N. Y.—One-story Colonial style frame bldg. housing the Farmingdale Federal Savings and Loan Association, destroyed. Explosion caused by leaking gas.
Far Rockaway, N. Y.—Brody Furniture & Music store, destroyed.
Fredonia, N. Y.—St. Anthony's Roman Catholic Church destroyed. Overheated furnace.
Freeport, L. I., N. Y.—Bldg. in heart of business section housing women's apparel store, sport goods shop and jewelry store, damaged.
Greenport, N. Y.—McCall Refrigerator Corp., plt., Columbia County, destroyed.
Jamaica, N. Y.—Tompkins Bros. Wholesale Builders Supplies plt., damaged.
Maspeth, L. I., N. Y.—Phelps Dodge Refining Corp. plt. destroyed.
Utica, N. Y.—Bldg. of United Super Market damaged.
Lenoir, N. C.—Dixie Home Supermarket and furniture and knitting machine whse. destroyed.
Oxford, N. C.—Colonial Food store bldg.; Bergen's Dept. store; Granville Feed store and Oxford Hardware store bldg. destroyed. Trash box fire.
Canton, Ohio—Milner Hotel damaged.
Irondale, Ohio—Business bldg. owned by Robert Paisley destroyed.
Sidney, Ohio—Citizens National Bank bldg. damaged.
Toledo, Ohio—Hettrick Mfg. Co. damaged. Spontaneous ignition.
Enid, Okla.—Dry goods store on city square damaged. Burning trash container.
Hugo, Okla.—Roebuck Lake Country Club destroyed.
Sapulpa, Okla.—Bldg. housing Oklahoma Gas & Electric Co. damaged.
Astoria, Ore—Siddall Hotel, Mode O-Day shop and Astoria Sporting Co. destroyed. Explosion.
Portland, Ore.—Alaska Junk whses. and Barde Steel Co. whse damaged. Gas heater.
Prairie City, Ore.—California Pacific Utility Auxiliary Electrical plt. destroyed.
Denver, Pa.—Combination business bldg. and apt. owned by Mrs. Pearl Wagner, destroyed.
Erie, Pa.—Calabrese Club, West Side social club, damaged. Short in high tension wires.
Manheim, Pa.—Manheim Brass Foundry destroyed.
Media, Pa.—Dormitory bldg. at Elwyn Training School, Baltimore Pike, destroyed.
New Castle, Pa.—North Street Public School destroyed.
Philadelphia, Pa.—Storage shed owned by Whitehouse Paper Co. destroyed; adj. industrial bldg. damaged.
Philadelphia, Pa.—Ukrainian Orthodox Church destroyed.
Philadelphia, Pa.—Clinton Hotel destroyed.
Reading, Pa.—Berks Brass Foundry, Inc., plt. destroyed. Boiler explosion.
Williamsport, Pa.—Williamsport Die & Machine Co. plt. destroyed.
Newport, R. I.—Bryer Exchange Bldg., Fays-Newport shoe store and Tilden Thurber Co. jewelry damaged.
Greenville, S. C.—Rogers Paint Products, Inc.;

. . . JUST ABOUT ANYBODY CAN GET EXPERT RESULTS WITH THAT EXTINGUISHER!

That's a fact! Ansul nozzles were designed for use by inexperienced operators. These patented nozzles provide a flattened cone-shaped discharge of dry chemical. The stream of dry chemical helps to shield the operator from the radiant heat of the fire. At the same time the pattern of the dry chemical stream, its velocity, etc. have been proved to be most effective in fighting flammable liquid, gas and electrical fires. Besides greater extinguishing effectiveness, Ansul users receive many other benefits . . . water-tight construction for more dependable fire protection; corrosion resistant construction for long life with low maintenance costs; quick, easy on-the-spot recharge for continuing fire protection; non-conductor and non-toxic for safety of operators, etc.

SEE PAGE 195

The "NEW YORKER"
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Write for Catalog 341

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Harmon Music Shop and Record Center; Economy Finance Co.; Rainbow Beauty Parlor and an alterations shop destroyed. Piedmont Realty Co. bldg. damaged.

Big Stone City, S. Dak.—Grocery store owned by Lauster Bros., big Stone newspaper offices and a billiard hall and tavern, destroyed. Overheated stove.

Tyndall, S. Dak.—Tyndall Creamery and a locker business destroyed.

Columbia, Tenn.—Columbia Livestock Market and 200 mules, destroyed.

Memphis, Tenn.—National Theatre Supply Co. damaged.

Henderson, Tex.—The Anthony Wholesale Grocery & Feed Co. whse. destroyed.

San Antonio, Tex.—Bldg. housing Texas Bowling Center destroyed.

Price, Utah—Consumers Coal Mine damaged. Spontaneous ignition.

Winchester, Va.—A. C. Oates Lumber Co. office and storeroom destroyed.

Woodway, Va.—Elk Knox Elementary school, five miles west, destroyed.

Chelan, Wash.—Lake Chelan Body Fender shop, Chelan Style Shop, Karl Beauty Shop and Weiner's Jewelry Store, destroyed. Explosion.

Pullman, Wash.—Standard Lumber Co.'s office yard stock, destroyed.

Seattle, Wash.—Washington boat center, six pleasure boats, destroyed. Short circuit.

Bluefield, W. Va.—Mercer Co. Airport bldg. owned by Airway Engineering Corps., destroyed. Oil stove explosion.

Bluefield, W. Va.—Bluefield Hotel and Jimmy's Resaurant, damaged.

Mullens, W. Va.—Theatre and adj. furniture store, destroyed.

Appleton, Wis.—Metallurgical plt. of Cary Mfg. Co. destroyed.

Belmont, Wis.—Heneman Dept. Store in downtown business section, destroyed.

Camp McCoy, Wis.—Dental clinic destroyed.

Hancock, Wis.—Hancock Community Church in Waushara County destroyed.

Winnipeg, Man.—Furby Theatre destroyed.

Belleville, Ont.—Store and apt. bldg. at Front & Victoria Streets, damaged.

Hamilton, Ont.—Essex Packers plt. destroyed.

Pickering, Ont.—Tee-Pee Motel destroyed. Cigarette.

Woodstock, Ont.—South - Hampton Regional school, 27 miles from here, destroyed.

Amos, Que.—Bldg. housing genl. store, several offices and dwelling, destroyed.

Gatineau Point, Que.—Theatre which had been converted into apts. destroyed. Overheated stove pipe.

Montreal, Que.—Lumber whse. and five freight carloads of lumber owned by Tetreault and Page, destroyed.

Montreal, Que.—A & P food store, Bow-A-Way bowling hall, Lutty Dry Goods store, Martha Lingerie Shop, Brault Bakery Ma. Biscuitens confectionery and offices of Leonard Leger, Notary, destroyed.

Ste. Agathe des Monts, Que.—Norwegian-style lodge owned by J. W. McConnell, Montreal publisher & financier, 40 miles north, destroyed.

An Opening for Spanish Speaking Fire Chief

Somewhere in the United States, or Mexico, or abroad, is a fire chief of ability who speaks Spanish. Such a man may be interested in the following item, from FIRE ENGINEERING's correspondent, W. Jerome Daly, New York:

"The protection and security officer for a big South American contractor is looking for a Spanish-speaking single man or widower with fire-fighting experience to take charge of fire protection for a construction job. He must not be much older than 45. The salary is $9,600 a year plus room and board for 18 months at least."

Interested parties might contact Mr. George Coughlin, Room 201, No. 67 West 44th Street, New York, N. Y.

No Frills on Smoke Jumpers' Quarters

According to Rep. Mansfield of Montana, the $970,000 authorized by Congress for a forest service smoke jumper headquarters in Montana will not allow frills. Increased building costs since the construction estimate was made in 1949, may result in elimination of all but barest essentials. Smoke jumpers are fire fighters who parachute from planes to fight remote woods and brush fires.

Fire Prevention Bureaus

(*Continued from page* 179)

the supervision of the Chief Engineer of the Bureau of Fire, which office prior to this ordinance was under civilian personnel and under police supervision. The present officer personnel, under the direction of Chief Engineer John C. Cost of the Bureau of Fire, is as follows: 1 Deputy Chief-Fire Marshal of the Fire Bureau, in complete charge; 1 Battalion Chief of the Fire Bureau with title of Chief Assistant Fire Marshal; 2 Captains of the Fire Bureau, with title of Assistant Fire Marshal; 4 Lieutenants of the Fire Bureau, with title of Fire Marshal's Inspector.

According to Chief Cost, the duties of the fire marshals are as follows:

Investigate and maintain records of all fires, which records are kept on file in the fire marshal's office.

They are empowered to make arrests in cases of arson, etc., and to prosecute such cases in court. All investigations involving arson are made in civilian clothes.

The fire marshals make all inspections, in uniform, of manufacturing buildings, places of public assembly, dance halls, cafes, junk shops, lumber yards, etc., and inspect the storage of flammable liquids and explosives.

They are subject to call 24 hours a day when called upon by the fire bureau, and one or more fire marshals attend every extra alarm fire.

The Fire Prevention Division, which consists of 58 uniformed firemen, taken from the fire bureau personnel, who must have had at least seven years of fire fighting experience, is under the direct supervision of the Fire Marshal of Philadelphia.

These men come under the rules and regulations of the Bureau of Fire and can be returned to the fire fighting forces if their services as inspector are not satisfactory, and they can be replaced by other firemen from the fire fighting forces.

No inspection work is done in the fire prevention division by civilians or anyone in civilian clothes. All fire marshals and fire prevention inspectors wear a badge on their uniform coats and carry identification cards signed by the Chief Engineer, Bureau of Fire, which cards also carry the photographs of the inspectors. (This policy of identifying inspectors is widely followed).

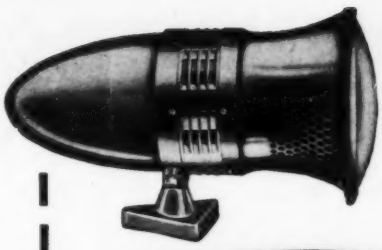
Of the 58 uniformed firemen assigned to the fire prevention division, 48 members do the inspection work of the following:

Block inspection; making a report of every occupancy of every building in the city blocks. Some members inspect multiple dwellings, apartments, rooming houses, hotels, etc.

Some members are assigned to oil burner inspection only as under the city ordinance all oil burner installations are subject to the fire marshal's approval. These inspections amount to approximately 12,000 to 18,000 per year.

Other inspectors are assigned to fire hazard complaints received from citizens, which amount to approximately 200 per month.

Two inspectors are assigned to the inspection of hospitals, convalescent homes and homes for the aged. They make at least three inspections a year of each of the above homes and are responsible for the training of personnel in these



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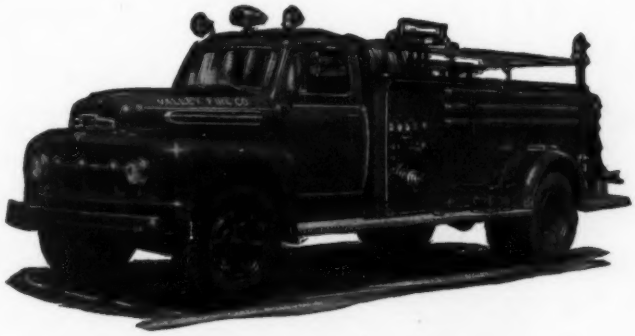

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institutions in the use of fire equipment, fire drills and instruction of personnel in their duties in case of fire or an emergency.

Ten uniformed men are office personnel, who get the work ready for each working day for inspectors, and file reports, read blueprints for fire exits, fire escapes and so on. They handle the follow-up inspections so that owners who fail to comply with violations in specified time given on written notices are prosecuted under the law. There are five civilian employees in the fire marshal's office, one secretarial-stenographer and four typist-clerks who do all the typing.

Detroit F. P. Division Maintains Chemical Laboratory

The Fire Prevention Division of the Detroit Fire Department is well organized and one of the busiest in the country. It has a total of 59 employees, including 8 civilian (office) employees. The uniformed personnel consists of the Fire Marshal, who heads the division, the assistant fire marshal, four senior fire prevention inspectors, one senior fire prevention instructor, 41 fire prevention inspectors, two fire prevention instructors and one senior assistant architectural engineer.

The division is a unit of the Detroit Fire Department under the chairmanship of one of the Fire Commissioners and operates under the Board of Fire Commissioners. The city charter establishes the powers and duties of the fire marshal who is charged with the enforcement of regulations and ordinances pertaining to fire safety and fire prevention, as well as inquiry into the origin and cause of fires.

The various activities of the Detroit Fire Prevention Division are sub-divided into Sections known as the Flammable Liquids Section, Public Assembly Section, General Inspection Section, Public Relations Section, Arson Section and Enforcement Section.

The Flammable Liquids, Public Assembly, General Inspection and Enforcement (court) Sections are each supervised by a senior fire prevention inspector. The senior inspectors are responsible to the assistant fire marshal for all phases of inspection work under their supervision. They in turn act as consultants for fire inspectors in their particular field of inspection. The Public Relations Section conducts fire prevention programs, demonstrations, etc., before adult and school groups and is headed by a senior fire prevention instructor. The Arson Section, to which four fire prevention inspectors are assigned, is under the immediate supervision of a detective inspector of the Police Department. These men work with police officers in investigating both accidental and incendiary fires and their offices are maintained in the fire prevention division at fire headquarters.

A fully equipped chemical laboratory maintained by the division is operated by a fire inspector who is also a chemical engineer. The laboratory is specially equipped to make detailed analyses of flammable liquids and other hazardous materials as well as material evidence in arson cases.

Vacancies in the position of fire prevention inspector or fire prevention instructor are filled from applicants in the ranks of the fire fighting division.

Applicants selected are transferred to the fire prevention division for six months probationary periods, during which time their knowledge, ability, public contacts, etc., are closely observed. After six months, if found suitable and adapted to this type of work, they are recommended for promotion to fire prevention inspectors. This requires approval by the Fire Commission, satisfactory medical examination and examination and approval by the Civil Service Commission. Promotions in the fire prevention division are based on qualifications and seniority in the division in the next lower position. All civilian (office) positions in the division are filled by the Civil Service Commission on requisition by the fire department.

The salary of the fire mashal is about midway between that of the chief of department and assistant chiefs. The salary of the assistant fire marshal is slightly less than that of battalion chiefs. Senior fire prevention inspectors are in approximately the same salary range as fire captains, and fire prevention inspectors' salaries are equivalent to fire lieutenants.

Former Chief Ninian C. Higbee, whose comprehensive report we quote, advises that the inspection work of the fire prevention division is augmented each year by a program of inspection by fire company officers. Inspection districts and work assignments are made by the fire prevention division through the office of the chief of department. All inspection reports submitted by fire company officers are reviewed and checked by fire prevention inspectors assigned to this work and all necessary follow-up work and reinspection on violation notices issued by fire company officers are made by fire prevention inspectors.

Curbs on Sweater Sales

Federal Trade Commission examiners on Feb. 26th issued formal decisions to ban the inter-state sale of brushed rayon sweaters not clearly marked as highly flammable and dangerous to wear.

Unless there is an appeal, the decision becomes final in thirty days. The Commission had announced earlier that two concerns involved in the "hot sweater" case had admitted the charges against them in the complaints.

Fire Bell Club Banquets

The Fire Bell Club of New York, much publicized fire buffs' organization, held its 13th Annual Anniversary Dinner at the Hotel Martinique, Feb. 11th, last, with over 300 celebrities and members in attendance.

Club members feted officers and members of the New York Fire Department, headed by Fire Commissioner Frank Grumet and Fire Chief Peter Loftus. Among the out-of-town dignitaries present was Puerto Rico's Fire Chief, Raul Gandara.

Highlight of the celebration was a skit entitled "Up in Central Park" (home of the Manhattan Fire Alarm headquarters). The one-act "fantasy" which described the operations of the fire alarm office, "brought down" the house.

Officers of the Club are, Homer E. Martin, president; John F. Connell, M.D., vice president, Francis J. Daly, secretary and William Leavy, treasurer.

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Long Distance Gun—Carries a straight stream greatest possible distance before it breaks up. Length 49 inches. Range of 19.6 to 43.5 GPM. Pressures of 400 to 800 lbs.

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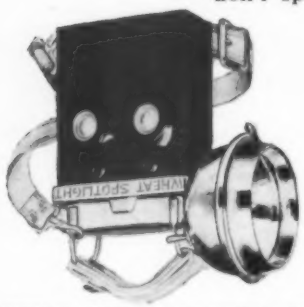

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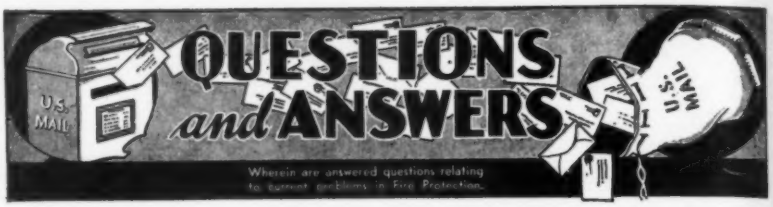

Discharge from Fog Nozzle

To the Editor:

In "Fire Service Hydraulics," on Page 148, there is a problem relative to fog nozzles. It states that a 1½-inch fog nozzle at the end of 1,000 feet of 2½-inch hose will throw 68.3 gallons per minute at a nozzle pressure of 104 pounds and an engine pressure of 125 pounds.

Our department has an Elkhart fog nozzle (periphery). A discussion arose, one side claiming that the nozzle will throw more water on full fog than on solid stream. The orifice on this nozzle is larger on fog than on straight stream.

Some of the men claim that the figures in "Fire Service Hydraulics" do not apply to this nozzle.

Could you give us some information on the problem?

G. F. B.

Answer: The Elkhart Mystery Nozzle discharges more water when operating as a fog nozzle than it discharges when operating as a straight stream nozzle.

Nozzle Type	Nozzle Setting	At a Nozzle Pressure of (Lbs. Per Sq. In.) 60 Lbs.	80 Lbs.	100 Lbs.	125 Lbs.
S-200 1" size	Straight Stream	16	18	21	23
	30 degrees Fog	18	20	23	26
L-200 1½" size	Straight Stream	60	65	70	75
	30 degree Fog	68	81	90	105
200 2½" size	Straight Stream	100	116	139	154
	30 degree Fog	137	155	170	192
J-200 2½" Jumbo	Straight Stream	275	303	352	391
	30 degree Fog	315	375	425	475

The above figures show the gallons per minute discharge for the common types of Mystery Nozzles both for 30 degree fog and straight stream:

Comparative Results with 3-Inch and 2-Inch Hose

To the Editor:

In discussing and figuring hydraulics recently the following question came up for discussion.

Will 3-inch hose pump suctions with 2½-inch couplings give a better water supply to the pump from the hydrant than 2½-inch hose, and how much more?

We proceeded to test them at a hydrant with the following result:

Twenty-five feet of 2½-inch hose showed open butt pressure of 32 pounds, as measured by pitot gauge.

Twenty-five feet of 3-inch hose with 2½-inch couplings showed pressure of 40 pounds, or a difference of 8 pounds.

Figuring capacity of the two lines by the regular formula $D \times D \times P$, and taking 90% of the value less 5% for the 2½-inch couplings, showed the capacity of the 3-inch hose as approximately 1435 G.P.M. and the capacity of the 2½-inch hose as 950 G.P.M., which showed that the 3-inch hose with 2½-inch couplings had a greater capacity of approximately 485 G.P.M. than the 2½-inch hose.

In the discussion that followed, some of the men contended that, since both of the lines have 2½-inch outlets, the capacity of the 3-inch line was only 105 G.P.M. more than the 2½-inch line.

They stated their contention was prompted by their reference to the hydrant discharge table on Page 165 of "Fire Service Hydraulics," which shows discharge of 950 G.P.M. for 32 pounds pressure, and 1,055 G.P.M for pressure of 40 pounds.

Would appreciate very much your giving your solution to this question. I would also appreciate your opinion on the advantages to be gained by using 3-inch hose with 2½-inch couplings over the 2½-inch hose.

W. H. E.

Answer: The discharge from the 2½-inch length of suction hose, equipped with 2½-inch couplings, and with butt pressure at 32 pounds is calculated as follows:

$$\text{Discharge} = 29.7 \times d \times d \times \sqrt{P} \times .90$$
$$= 29.7 \times 6.25 \times \sqrt{32} \times .90$$
$$= 29.7 \times 6.25 \times 5.567 \times .9$$
$$= 945 \text{ gallons per minute.}$$

The discharge through the 25-foot stretch of 3-inch hose with 2½-inch couplings and butt pressure of 40 pounds is calculated as follows:

$$\text{Discharge} = 29.7 \times 6.25 \times \sqrt{40} \times .9$$
$$= 29.7 \times 6.25 \times 6.33 \times .9$$
$$= 1{,}057 \text{ gallons per minute}$$

In the above calculations it will be noted that the 3-inch hose with 2½-inch

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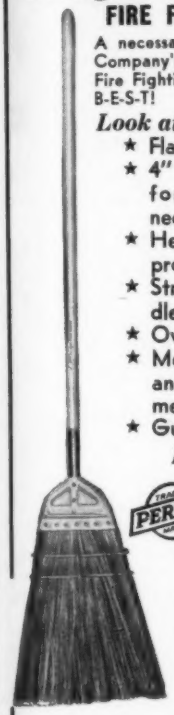

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couplings discharges 112 gallons more per minute than the 2½-inch hose with 2½-inch couplings, where the hydrant pressure is the same in each case.

Incidentally, the table you refer to is for open hydrant butts which differs but litle, however, from open hose butts. The values of the table are approximations. The calculated values are shown above.

Friction loss in 3-inch hose with 2½-inch couplings is approximately two-fifths that of 2½-inch hose with 2½-inch couplings. Thus for the same friction loss and same flow, a line of 3-inch hose with 2½-inch couplings can be two and one-half times as long as a 2½-inch line with 2½-inch couplings.

Factors for Parallel Lines of Different Diameters

To the Editor:

In the August issue of FIRE ENGINEERING, on page 693, a reader asks a series of questions under the title, "Nozzle Sizes and Maximum Stretches." In answering question number four, you state that the problem cannot be solved because of the lack of empirical figures for solving problems involving a parallel layout of one line of two and one-half and one line of three inch hose. Having encountered such a problem several years ago, I worked out constants mathematically that gave results as close to actual pitot gauge readings as any of the commonly used constants.

My formula for finding friction loss per hundred feet of parallel two and one-half and three-inch hose being:

$$\frac{2Q^2 + Q}{6.1} = \text{F.L. per 100 ft.}$$

For the same layout, K factors are as follows:

1¼-in. nozzle	.04
1⅜-in. nozzle	.056
1½-in. nozzle	.083
1⅝-in. nozzle	.111
1¾-in. nozzle	.148
2-in. nozzle	.254

Maynard, Mass.

Truly yours,
HARRY T. HANSON

California Rural Fire Association Plans Three-Day Program

The 21st Annual Meeting of the California Rural Fire Association will be held at the Hotel Senator in Sacramento, Calif., April 25-27, 1952, it is announced by Clifford A. Ommert, Secretary.

The agenda for Friday, April 25, includes talks and discussions on the following topics:

Fire Suppression Activities of the U. S. Forest Service; Electrical Hazards in Fire Control; Rural Fire Prevention Program; The California State Compensation Fund as Applied to Fire Departments; That California Fire District Acts From a Legal Standpoint; Control of Cotton Fires.

Saturday's program will include drills and demonstrations of rural fire fighting tactics, 17 rural fire departments, located in the Sacramento Valley, taking part.

The meeting concludes on Sunday, April 27, with a business session. The C.R.F.A. cordially invites those who may be interested in rural fire protection to attend the sessions.

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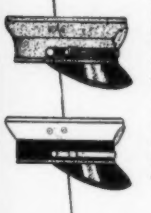

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NEW UNIFORM CAP CIRCULAR SHOWS OVER 25 DIFFERENT STYLES. . .
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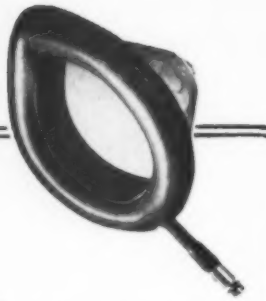

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AS A WATER TOWER

Recent tests have shown that this economical all metal ladder serves well for mounting a ladder pipe as well as other fire service uses.

Several Fire Truck manufacturers are now prepared to build MEMCO AERIALS on their apparatus.

DE-LUX NEON MFG. CO.
1007 N.W. 36th Street
OKLAHOMA CITY 3, OKLA.

The WATCH DESK

Overhauling the firemanic news of the day

by ROI B. WOOLLEY

G.I.'s Douse Fire with New "Foam-Right"

Down in Lyford, Texas, a group of ex-GI's are rather pleased with themselves for having disposed of six cases of beer—all in a good cause, mind you!

Seems that some of the boys were sitting around the Cavazos Cafe on a certain night, batting the breeze and downing a few beers.

Suddenly they heard an explosion outside, whereupon as one man they investigated to find the gasoline tank of a jeep ablaze. The fire quickly ignited the wall of the tavern. Things looked a bit threatening. But that didn't phase the GI Joes. Nossir, they attacked the fire with the "extinguishing agent in hand," beer. But that didn't prove enough ammunition. The cafe owner pointed to six cases of beer as reinforcements. Whereupon the GI's quickly grabbed up the bottles and deployed in force against the blaze.

Heaving the bottles against the jeep and the flaming wall, the beer foam soon smothered the fire. When the Raymondville firemen arrived—they were the nearest force—all they found were broken beer bottles—and a bunch of GI guys standing around talking about the good old days when they used to heave grenades!

Thanks LAWRENCE FEIHEL, JR.

* * *

Copper's Ice Cream Cone Conquers Hot Rod Fire

While we're discussing makeshift fire extinguishers, ponder the case of Patrolman Alfred Bolsta of Ontario, Cal. He never considered himself much of a fireman—until—

Patrolman Bolsta was munching on his double-decker fudge wave special when he spied a juvenile driver in a "hot rod" zipping down the street, leaving a backwash of half-exploded gasoline fumes. The cop noticed, more important, that the car's rear end was blazing.

Bolsta took off after the youth, fudge-wave sundae in hand, chased him for five blocks until the flaming "hot-rod" pulled into a service station.

"Get outta that car" yelled the policeman, fearful that an explosion might blast the station. Then, as the youth beat a hurried retreat, Bolsta jammed his ice cream cone into the tank opening. Bingo! Out went the fire.

Thanks IRVING W. JOHNSON

* * *

Hot Off the Tape

In Los Angeles, Sheriff's Deputy Edward Houtz got no medals for diluting the firewater in a couple of drunks. He was suspended for trying to revive the inebriates by squirting them with a fire extinguisher. . . . Walter J. Novak went into a Rockford, Ill., bank to pay off a loan on which he had pledged his house trailer as security. While he was in the bank, the trailer caught fire from unknown causes and was destroyed as it stood on the street outside. . . . In Chicago, Fireman Clement Mishek, 45, helped revive Mrs. Jeannette Szaye, 46, two hours after she suffered a heart attack, then returned to his fire station and fell dead— of a heart attack. . . . Mrs. Kathleen Audrey Tossey was held in Bell, Calif., jail on an arson charge for allegedly setting fire to her house. The 38-year-old housewife told police the house got so cluttered and messy that burning seemed the easiest thing to do! . . . In Beloit, Wis., fire ripped through a downtown stationery shop and radio and appliance store before it burned a telephone, causing a light on the central phone exchange to blink, whereupon the operator notified firemen who brought blaze under control after it had caused $100,000 damage. . . . Two brothers, 7 and 13, confessed to Staten Island, N. Y., police they set a fire February 11 in a Stapleton apartment building in which one woman died and two were hospitalized with serious injuries. Six families were made homeless. The boys only wanted to "scare" the occupants of the building. . . . Firemen of Washington, N. J., watched helplessly as a two-story guest house burned down at secluded Mountain Spring Camp on Montana Mountain in White Township. Their pumper wouldn't work. Although adequate water was available in a nearby pond, the volunteers had to let building go, and beat out fire in leaves and brush to keep ground fire from spreading to nearby woods. . . . In Dearborn, Mich., Mayor Orville L. Hubbard said four firemen and one detective had been fired for holding outside jobs while local laid-off automobile workers went begging for employment. . . . After firemen of Cooperstown, Pa., had finished putting out a chimney fire atop William Grube's home, Mr. Grube appeared at the door and inquired: "What's the trouble boys?" . . . Deputy Fire Chief Fitzgerald of the Bradley Beach, N. J., Fire Department answered an alarm last month to find a house he owned ablaze. Boys playing with matches, were believed to have caused $10,000 damage. The chief himself was overcome by smoke for a brief period. . . . Xenia, Ohio police believe a 26-year-old divorcee sprinkled her ex-mate's trailer home with kerosene then set it afire in retaliation for a beating.

* * *

New Kind of "Hot Rod"?

Driver L. Ward Hanson, of the Stoughton, Wis., Fire Department, claims he's an avid reader of *Fire Engineering's* "Watch Desk" and other features, but that the following item "just about takes the cake."

It seems that a Mr. Henry Johnson, residing just east of Stoughton, let his son Stanley take out his new Chevvy on a Friday evening. At midnight the son returned home with the car, garaged it, and removed the ignition keys, locked the car doors, closed the garage doors, went into the house, put the keys on the top of the refrigerator and retired.

Almost two hours later, two members of the family awoke and saw a car all aflame go by the front windows—only upon investigation to discover that it was their own car. They called the Stoughton firemen at once.

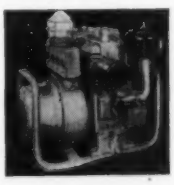
The car had caught fire in the garage (deponent fails to give the cause) and evidently when the fire burned the insulation off the starter switch wire it made contact, and the starter drove the car against the garage doors, and pushed them open without injuring them. The

"MORSE"
SHUT-OFF NOZZLE and PLAYPIPE
COMBINATION
•
The World's Finest
•
Fig. 156

F. N. McINTIRE BRASS WORKS
BOSTON, MASS.
1837 - - - - - - - - - - - 1952

A POWER PLANT BUILT FOR FIRE DEPARTMENT NEEDS

DEPENDABLE!
COMPACT!
TROUBLE-FREE!



THIS 1500-watt "U.S." Portable was engineered with Fire Department needs in mind. An ideal unit for operating floodlights, radio, pumps and blowers. Available also as a 3000-watt generator. Write for folder describing the full line of U. S. units for fire departments.

UNITED STATES MOTORS CORP.
430 Nebraska St.
Oshkosh, Wisconsin

car continued back down the driveway until the front wheel hit a large rock which turned the wheels just right so the car missed some trees and shrubs in the front yard, while it made the most beautiful circle the firemen had ever seen until the battery went dead, with the car three quarters of the way around the house.

When the Stoughton fire fighters arrived, the car was completely involved by fire, except for the motor, which was uninjured. After dousing the car blaze, Fire Chief Ed Overland and the lads went into the garage to inspect it and discovered flames above the ceiling. This fire was quickly extinguished.

After investigating the freak incident, firemen concluded the car must have been fully afire before it left the garage under its own power and that nobody drove the car out of the garage, because the car's doors were still locked upon the arrival of the department.

Concludes Driver Hanson: "A man behind the wheel of that car would not have done a better job of getting it out, missing all obstacles."

* * *

Church Reserves Pew for Firemen

A back pew near the door of the new Covenant Presbyterian Church, in Dallas, Tex., is said to be reserved for firemen, who man a fire station next door.

The church clerk said the fire fighters have indicated they want to attend services with their neighbors every chance they get. The clerk agreed that some sort of system to light up a signal in the church and advise the worshipping Brothers of fire calls should be worked out.

The church, new in 1950, seats 250 persons and is only 50 feet away from the fire station. The minister is the Rev. Allen H. Craft.

So far as this editor knows, this is the first religious edifice ever to have seats reserved and special signals to alert its firemanic congregation.

Thanks W. A. McDONNELL

In Retrospect—75 Years Ago

THERE'S a bit of nostalgia in re-reading the following, which appeared seventy-five years ago (1877) in the journal that later became FIRE ENGINEERING:

KINGSTON, N. Y.—A couple of firemen walked around their engine house for nine hours for a bet of a glass of beer.

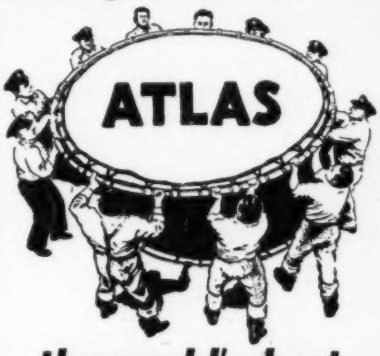
NEWBURG, N. Y.—The temperance fever has reached Newburg. Nearly 40 members of the Fire Department signed the pledge last week under the preaching of J. T. Doutney, the reformer.

CLEVELAND, OHIO—In Cleveland the horses do not stand in the stalls, but the harness is suspended over the tongue of the truck or steamer as the case may be, and when the alarm strikes the horses take their places at the same time the harness is dropped upon them and fastened by four "snaps."

CORK, IRELAND—The City of Cork, Ireland, is discussing the propriety of organizing a fire brigade.

McKEESPORT, PA.—The citizens of McKeesport, Pa., are becoming aroused to the necessity of taking steps toward the ap-

always SPECIFY



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in use in thousands of departments—time tried and proven—as the best and fastest means of rescue. All drop-forged hinges, with spring recoil mechanism like that on modern artillery. Specify ATLAS LIFE NETS on all new apparatus!

ATLAS SAFETY EQUIPMENT CO., INC.
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CARPENTER LIGHTS

Instantly Ready
SEARCHMASTER
The Chief picks up his Portable SEARCHMASTER. He's inside the building in time to handle most fires before they get to the dangerous stage, and before floodlights can be set up. All the light you want at the snap of your thumb. Patented handle points anywhere *without cocking arm.* Rechargeable.

ALL KINDS OF EMERGENCY AND SPECIAL LIGHTS FOR CARS, PUBLIC UTILITIES AND INDUSTRIES.

CARPENTER LEADS THE WORLD IN PORTABLE AND EMERGENCY FLOOD and SEARCHLIGHTS

Write for Catalog showing many more Emergency Lights.
CARPENTER MFG. COMPANY
BOSTON-45-SOMERVILLE, MASS.

prehension of the party or parties who have been making so many attempts to burn their town.

NEW ORLEANS, LA.—According to the New Orleans *Democrat* they have a habit down south of burning up negro children during the cotton picking season. Last season no less than fourteen negro cabins were burned up, together with some twenty children, whom their parents had locked inside while they were out picking cotton in the fields.

ALBANY, N. Y.—The Albany (fire) boys are packing their hydrants with sawdust.

CINCINNATI, OHIO—A meeting of the Cincinnati Board of Police Commissioners was held on the 25th ult., to consider the question of salaries paid to members of the Fire Department for the year 1878. It appears that the maximum allowed by law for the tax levy for that city is twelve mills on the dollar, and in order to make the Fire Department fund hold out, it was necessary either to reduce salaries of members, or disband some of the companies.

NEW YORK, N. Y.—The Chief of Department is paid $4,700 a year, and his Assistant $3,000. There are Ten Chiefs of Battalions who receive $2,500 each; Foreman of companies $1,500 each; Assistant Foremen, $1,250; Firemen $1,200; Privates $800; Hosemen $300. Privates and hosemen are permitted to engage in other employments, but must be on duty with their companies whenever they are called out to a fire. The total number of men in the Department is about 750, constituting 42 companies. . . . The New York Fire Department is an institution of which all citizens are justly exceedingly proud.

BROOKVILLE, PA.—A hand fire engine purchased by enterprising citizens for the town of Brookville, Pa., remains unclaimed at the railway depot. . . . The Borough

Rate $8 per inch less 10% for three or more consecutive insertions.

Classified Advertisements

Closing date for copy 25th of month preceding date of issue.

LEGAL NOTICE
NOTICE OF SALE OF FIRE EQUIPMENT

Notice is hereby given that the Board of Township Trustees of Willoughby Township, Lake County, Ohio, will offer at Public Auction at the Southwest Willoughby Fire Station located at corner of Douglas Road and Euclid Avenue in Wickliffe, Ohio, on the 29th day of March, 1952, at 10:00 o'clock A.M. Eastern Standard Time, the following described fire equipment belonging to the Township:

1 1942 Dodge Midship 500 G.P.M. Fire Truck
1000' 2½" Double Jacket Hose
200' 1½" Double Jacket Hose
2 Indian Pumps
1 4 lb. CO2 Extinguisher
1 2½"x2½" Playpipe
1 1½"x1½" Playpipe
3 1"x3/16" Playpipes
2 First Aid Kits
3 10'x4" Hard Suction Hose
200' Booster Hose
1 15 lb. CO2 Extinguisher
2 Electric Lanterns
1 Reducing Coupling
1 Granger Thief Coupling
1 Stirrup Pump
2 Axes
1 Set Tire Chains
1 Crow Bar
1 Hydrant Wrench
1 Spanner Wrench

All in first class condition.

Said equipment may be seen at the Willobee Fire Station on Lost Nation Road in the City of Willoughby, Ohio.

Terms of Sale: Cash on date of Sale.

The Board of Willoughby Township Trustees reserves the right to reject any and all bids.

By order of the Board of Township Trustees of Willoughby Township, Lake County, Ohio.

Mary P. Clark, Clerk-Treas.

FOR SALE

1932 Seagrave 750 GPM Pumper
New Engine
New Brakes
New Wiring
New Pump
Excellent Tires
12 Volt Twin Ignition System

Write West Annapolis Fire Department for other details and price. West Annapolis, Maryland.

FOR SALE
SURPLUS

1½" DJ CRL fire hose, unused, but soiled—$.75 per ft., cpld.
2½" DJ CRL fire hose, unused, but soiled—$.95 per ft., cpld.
1½" SJ CRL fire hose, unused, but soiled—$.35 per ft., cpld.
2½" SJ CRL fire hose, unused, but soiled—$.65 per ft., cpld.

UNUSED & CLEAN FACTORY PACKED

1½" DJ CRL fire hose—$.89 per ft.
Couplings—$6.75 per set, attached
1½" SJ CRL fire hose—$.42 per ft.
Couplings—$4.50 per set, attached
2" DJ CRL fire hose—$1.06 per ft.
Couplings—$9.25 per set, attached
2" SJ CRL fire hose—$.56 per ft.
Couplings—$6.75 per set, attached
2½" DJ CRL fire hose—$1.29 per ft.
Couplings—$9.75 per set, attached
2½" SJ CRL fire hose—$.71 per ft.
Couplings—$7.50 per set, attached

ALL HOSE IN 50' LGTHS.

Delivery—from stock

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1951 SUPERIOR-CADILLAC (new)
1949 SUPERIOR-CADILLAC (beautiful)
1948 FLXIBLE-BUICK (low mileage)
1947 SUPERIOR-CADILLAC (with Hydramatic drive)
1946 FLXIBLE-BUICK (very reasonable)
1941 SUPERIOR-CADILLAC (very clean)
1939 LA SALLE (perfect)

Fully equipped, ready to operate, guaranteed.

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FIRE PROTECTION ENGINEER—38—Graduate Engineer—Veteran—Married—Family. Industrial Fire Prevention, training and experience with Associated Factory Muutal Fire Ins. Cos., familiar with Industrial hazards and protection as well as Insurance (Stock & Mutual) Requirements. Write Box 290, c/o FIRE ENGINEERING, 24 West 40th St., New York 18, N. Y.

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Used Buffalo Built Ladder Truck. Mechanically perfect, about 1500 miles. Complete. Paint excellent.

1—50' Bangor ladder with poles
1—40' " " without poles
1—24' 3-Section extension
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1—14' " "
2—20' Pike poles
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Still in service, delivery can be made at once.

Inquire Village Clerk, Lyons, New York

FOR SALE

American-LaFrance City Service ladder truck, year 1930, equipped with booster pump and 205 feet of ground ladders.

Apply Haverford Township Commissioners, 2325 Darby Road, Oakmont, Havertown, Pa.

FOR SALE
FIRE TRUCK

1923 Seagrave Quadruple Fire Truck with 500 Gallon Pump, 83 ft. of Dual Safety Aluminum Ladders in good condition.

CITY CLERK-TREASURER
VALPARAISO, INDIANA

FOR SALE

Twelve 40x8, slightly used, Goodyear Tires.

For further information, write:
George W. McFarren, Fire Chief
Marion, Indiana

FOR SALE

One (1) Brass Slide Pole, 22 ft. long, 3 in. diameter, with base mount, no reasonable offer refused.

Write
Chief Norman Litz
Central Fire Station
Waukegan, Ill.

FOR SALE

1—Seagrave combination pumper and hose truck, 750-gallon capacity with 100-gallon booster tank. Still in service and good condition. Demonstration if desired. Write or contact:

Borough Clerk
Borough of Haledon
New Jersey

FOR SALE
TRAINING LADDERS

ROEVER TRAINING LADDER brings the aerial into the classroom. Designed to illustrate reach and angle required as aerial is placed various distances from building. Used by leading fire schools, U. S. Navy and city fire depts. Write today to:

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Hempstead, New York

PacKo EMERGENCY CUTTING EQUIPMENT

LIGHT WEIGHT . . . EASY TO WEAR. ABSOLUTELY SAFE AND RELIABLE.

PACKO Emergency Cutting Equipment will be found invaluable. It will enable you to cut away steel barriers in a few minutes . . . enable you to get to the source of a fire quickly . . . enable you to make a rescue . . . that by any other method would require hours.

The unit is self-contained . . . complete with pressure proved cylinders, regulators, hose and non-backfire cutting torch. Order a set today. Carried by leading fire departments in the country.

The WELDERS SERVICE CO., Inc.
229 Blvd. of Allies, Pittsburgh 22, Pa.

BADGES

Quality
Service
Satisfaction

EVERSON-ROSS
58 CHAMBERS ST. NEW YORK 7, N. Y.

Councils refuse to pay the freight charges and bring the machine into use . . . meanwhile the whole place lies exposed to being swept out of existence with a fiery besom.

ST. PAUL, MINN.—The volunteer Fire Department of St. Paul has finally given place to the paid department.

CHICAGO, ILL.—A laudable effort is being made in Chicago to substitute underground telegraph wires for the unsightly and insecure air lines now in use for fire alarm purposes.

Cincinnati Fire

(*Continued from page* 189)

floor after helping with the fire extinguishers at the outset of the blaze.

According to Marshal Williams, the fire spread from the point of origin to the third floor of the 100-year-old building and out the roof, the latter being practically destroyed. Fortunately the 85 girl residents of the Home are housed in other buildings not threatened by the flames.

During operations, Cincinnati's Engine 9 and Ladder 12 re-located in the quarters of Engine 8 and Ladder 14 respectively. Radio was used to help direct the Cincinnati apparatus to the exact location of the fire. Dispatchers P. Holz and Operators Snelbaker and Merrill were on duty at the Cincinnati Fire Headquarters.

Civilian Defense Clothing

Again, as in World War II, the problem of financing the work-clothing of auxiliary firemen has come to the fore. There have been many suggestions offered on this score, and we are pleased to publish one of the most pertinent, from Franklyn Kellogg, of Cleveland, Ohio. He writes:

"I've been a reader of Fire Engineering for twelve years and look forward to each issue. There has been considerable confusion concerning protective clothing for civilian defense auxiliary firemen and this suggestion may help alleviate this condition to a large degree.

"Why doesn't someone approach Representative J. Caleb Boggs of Delaware with the suggestion that the firemen holding *current* cards of C. D. Corps be allowed to deduct the full price of boots, and turn out clothing from their income tax, which is a way of insuring that the government is paying for our clothing? The Collector of Internal Revenue can then stamp and record the purchase to prevent repetition of buying before a reasonable period of time has elapsed, in which the clothing may have been worked out or damaged.

"You were chosen for this letter because, as you have always done in the past, have a fine record for putting the fireman's cause before the proper public officials."

EDITOR'S NOTE: *There are a number of members of the House and Senate who would do everything possible to promote better civil defense, and the interests of the fire fighters in that connection. Representative J. Caleb Boggs, who, as readers of this Journal know successfully sponsored the "Volunteer Firemen's" postage stamp, would be a good man to enlist in the cause. We suggest that readers who may be interested write Representative Boggs, House of Representatives, Washington, D. C.—and perhaps their own Representatives.*

FOR ALL AROUND PROTECTION

IL—Identification Light—roof mounted, visible from all directions for quick identification. Flasher mounted in top. Polished aluminum castings. Red, blue, or amber fresnel lens.

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Please send free catalog checked below:
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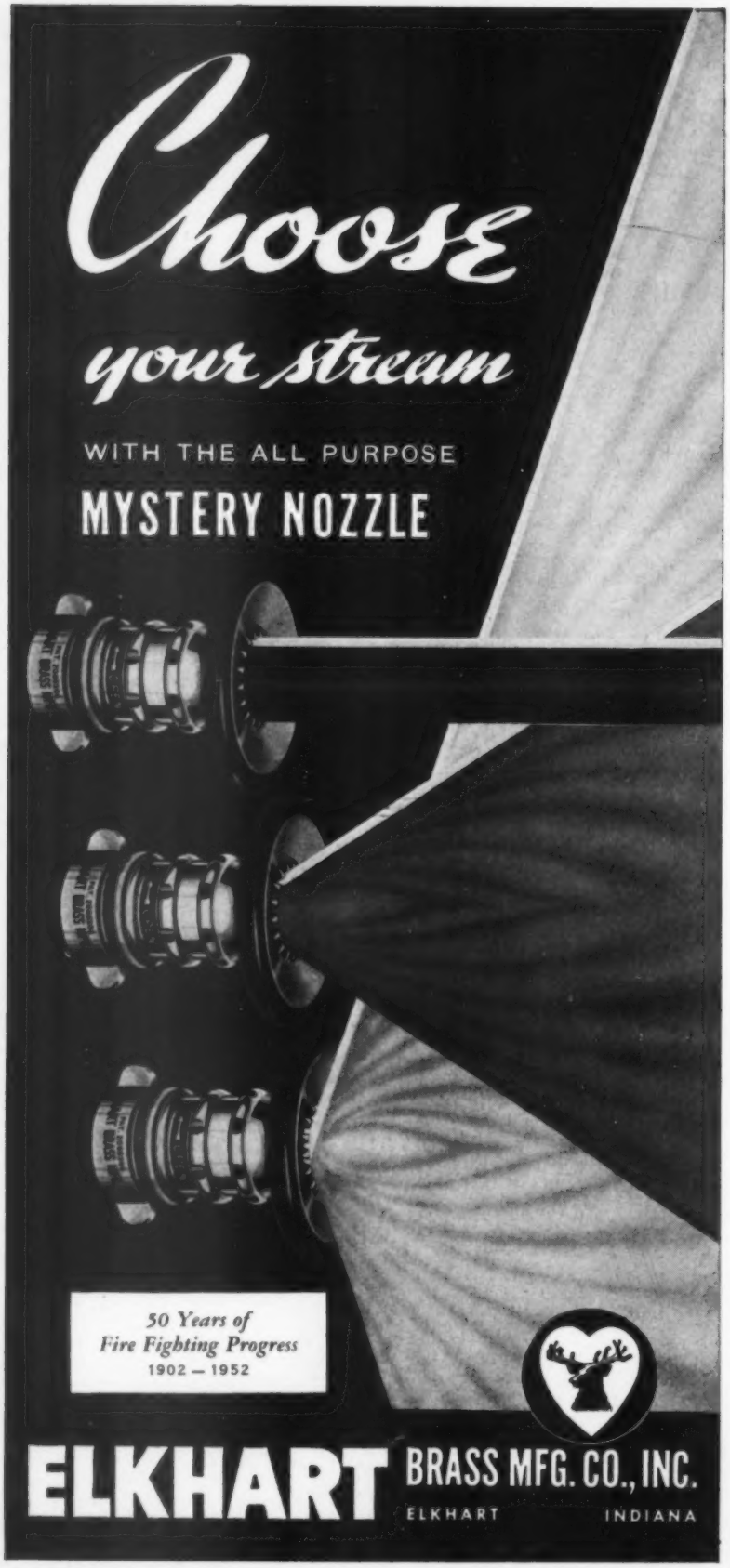

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From Coast to Coast -

FIRE EXPERTS ENDORSE

INDIAN FIRE PUMPS!

Be sure to visit the Federal Civil Defense "ALERT AMERICA" Exhibit when it comes to your locality.

"Should be standard equipment"

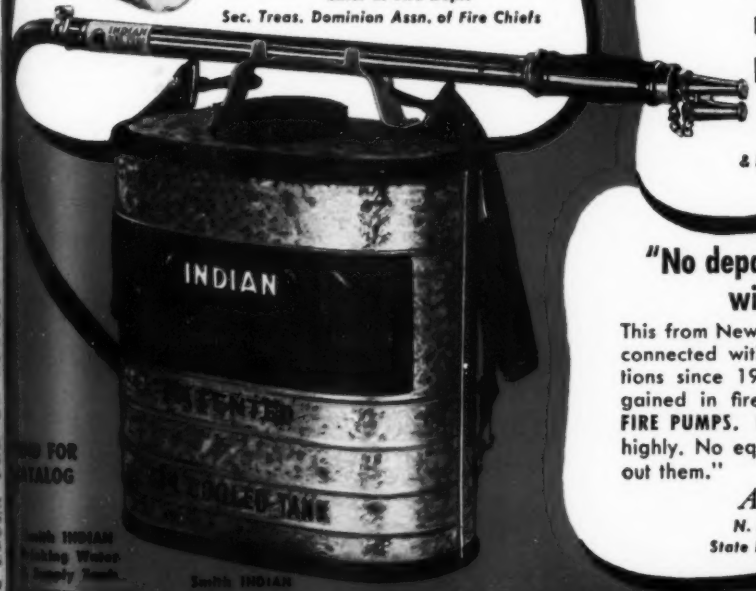
From Lakefield, Ontario, Canada comes this statement: "**INDIAN FIRE PUMPS** should be standard equipment on every piece of fire apparatus."

Allan H. Clark
Chief of Fire Dept.
Sec. Treas. Dominion Assn. of Fire Chiefs

"Indispensable"

And from Massillon, Ohio: "We have used **INDIAN FIRE PUMPS** for years. They are indispensable when the fire is beyond the reach of a Booster line besides being ideal for many other uses."

Ray H. Earle **Fire Chief**
Massillon, Ohio Fire Department



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N. H. State Fire Marshal
State House, Concord, New Hampshire

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